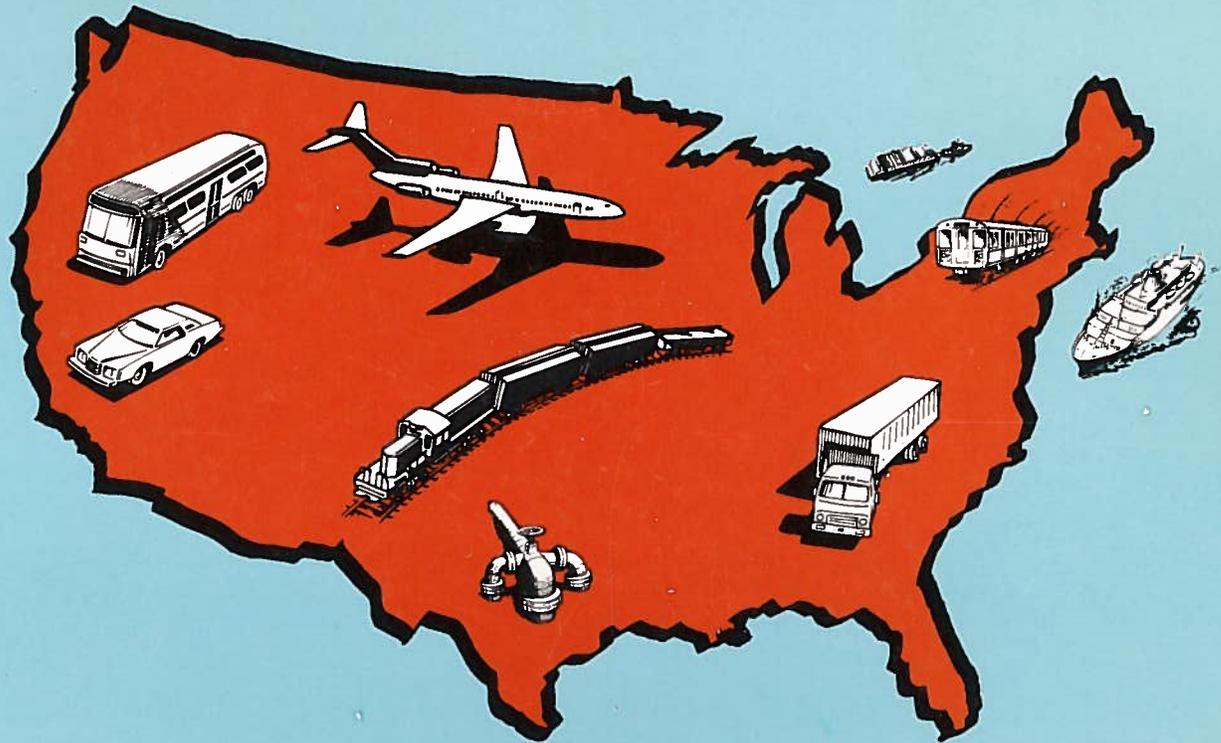


National Transportation Statistics



**AUGUST 1979
ANNUAL REPORT**

Prepared by

**Research and Special Programs Administration
Transportation Systems Center
Transportation Information Division
Statistical Information Reporting Branch
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16. Abstract This report is a summary of selected national transportation statistics from a wide variety of government and private sources. Included are cost, inventory, and performance data describing the passenger and cargo operations of the following modes: air carrier, general aviation, automobile, bus, truck, local transit, rail, water, oil pipeline, and gas pipeline. The report includes basic descriptors of U.S. transportation, such as operating revenues and expenses, number of vehicles and employees, vehicle miles and passenger miles, etc. A supplementary section includes Transportation and the Economy and Energy in Transportation. Energy in Transportation is divided into four parts: Energy Consumption, Energy Transport, Energy Intensiveness, and Energy Supply and Demand. Also included are the operating costs of automobiles of different sizes. In this edition, the selected data cover the period 1966 through 1976/1977.					
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INTRODUCTION

Developing and maintaining vital transportation statistics is one of the missions of the U.S. Department of Transportation's Transportation Systems Center (TSC). This publication is produced to support this mission and is intended to disseminate national transportation and energy statistics to the transportation and energy communities.

While most of these statistics are available from various sources such as government agencies and trade associations, they are presented here in one convenient and comprehensive report. Particular attention has been taken in documenting the sources of all data. These sources are noted either on the same page as the data or in Appendix A — Source Information.

Four different formats are used — 1) Tree Displays, 2) Modal Profiles, 3) Performance Indicators, and 4) Transportation Trends — to spotlight various aspects of the major transportation modes. In addition, two supplemental data sections detail the role of transportation in the economy and the relation of energy to transportation. Time series transportation statistics are presented for the period 1967-1977. Energy consumption and supply-and-demand data cover the same period and extend back to 1950.

New information has been included in this edition of the "National Transportation Statistics" report. The Modal Profiles have been expanded to include additional performance and safety data. New energy consumption and efficiency tables have been added to the energy section. In addition, new data has been included in the Transportation Trends and Selected Passenger and Cargo Performance Indicators sections. The Glossary has been expanded to include new terminology.

TREE DISPLAYS

Figure 2 illustrates the interrelations of the various modes via a tree display. This format presents the relationship between and within each transportation mode for the following areas:

- Expenditures and Revenues
- Vehicle-Miles
- Passenger-Miles
- Ton-Miles
- Number of Vehicles
- Fatalities
- Energy Consumed

Because of the variety of data sources, the totals may not always equal the sums of the subordinate data. Sources for each statistic may be found by tracing its parenthetical reference number to Appendix A. Where data are not available or not applicable, the block is shaded and no data are shown. Dotted lines indicate alternate groupings, e.g., "LIGHT RAIL" is contained in both "LOCAL TRANSIT" and "RAIL PASSENGER".

MODAL PROFILES

The Modal Profiles present cost, inventory, and performance data comparisons for 1967, 1976, and 1977. Not all of the types of data in these profiles are available for every mode, nor are they always applicable.

The following list indicates the type of data usually included in each group.

- I. Cost
 - A. Expenditures (private modes)
 - B. Revenue (for-hire modes)
 - C. Operating expenses
 - D. Federal expenditures
 - E. State and local expenditures

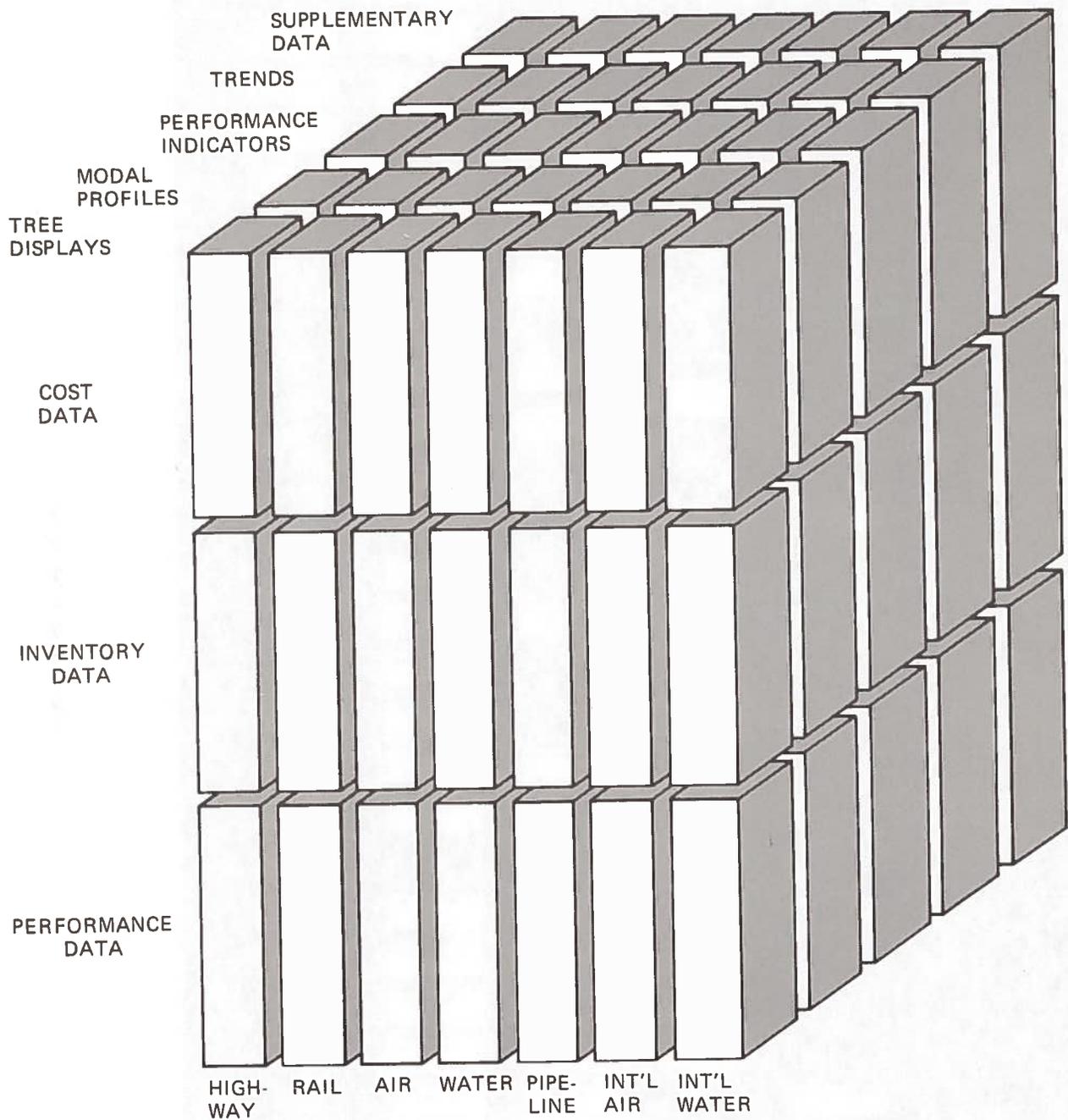
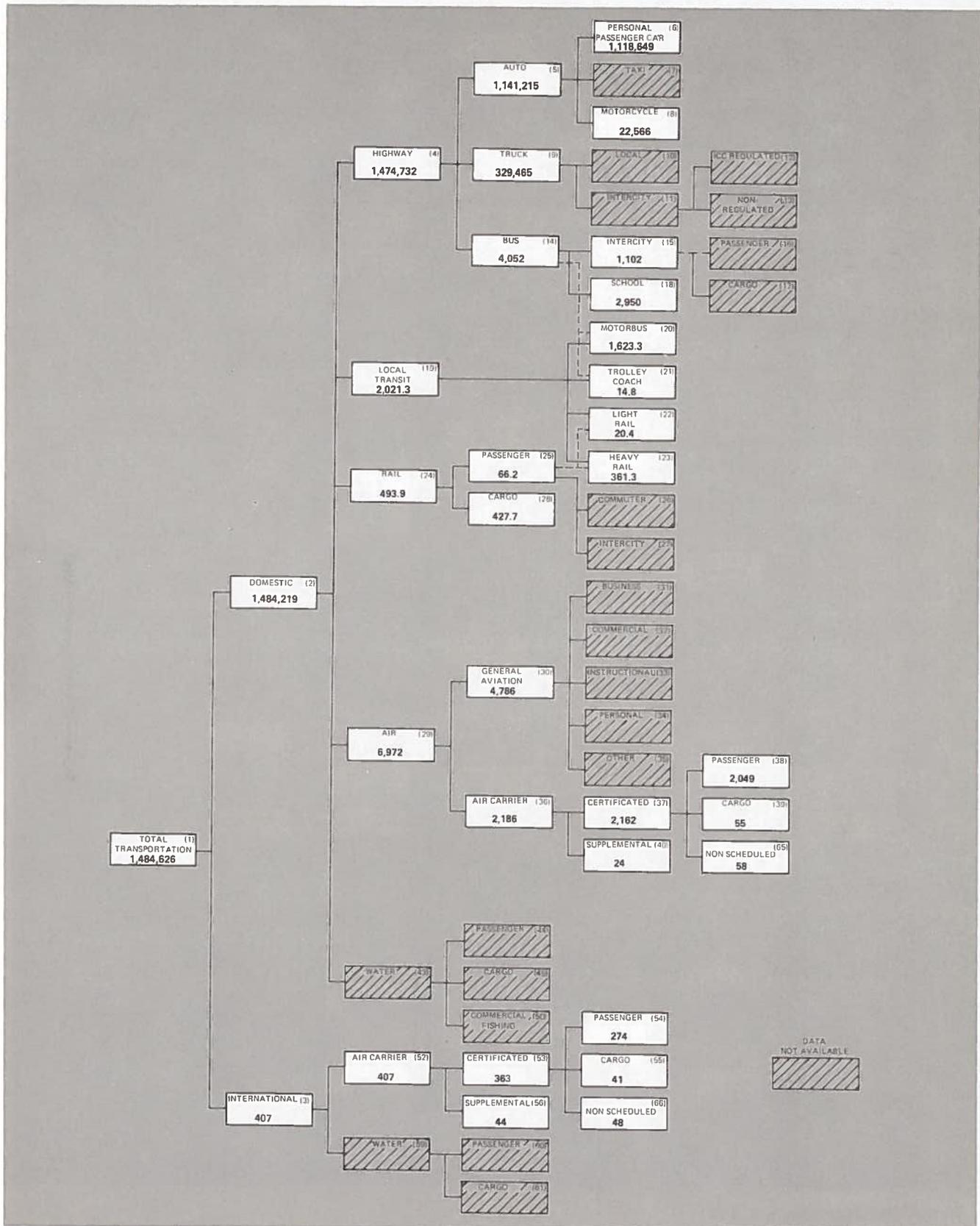
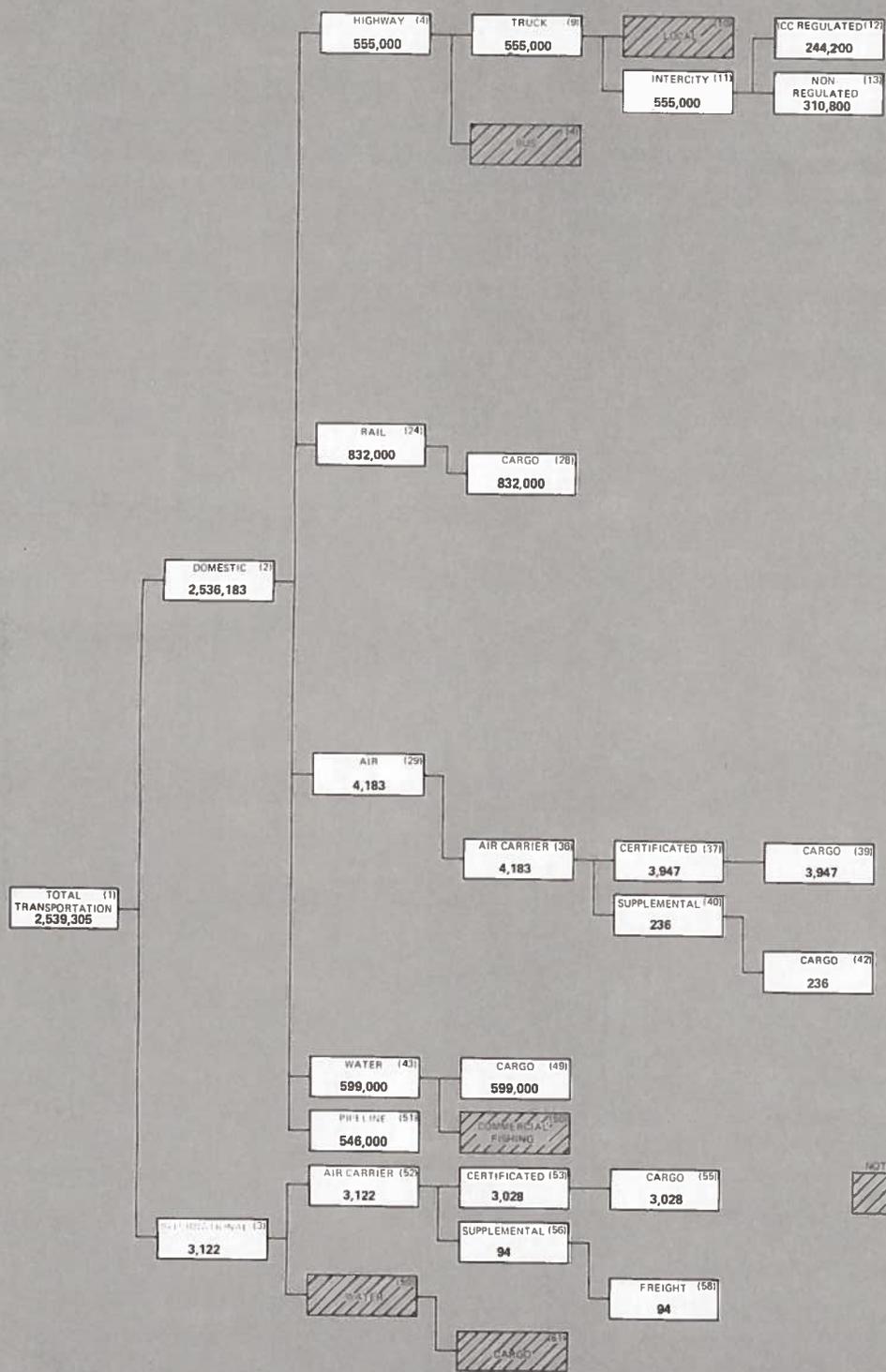


Figure 1. Organization of the Data

TREE DISPLAYS



Source: See Appendix A, p. 146. Figure 4. Vehicle-Miles (Millions) - 1977



DATA NOT AVAILABLE

Source: See Appendix A, p. 149.

Figure 6. Cargo Ton-Miles (Millions) - 1977

MODAL PROFILES

MODAL PROFILE SOURCE REFERENCES AND PERCENT CHANGE CALCULATION

Specific source references are obtained as follows: the letter directly to the right of the data element applies to all subsequent data elements in that column until the next letter appears. In some cases, data are shown which may not appear directly in the sources listed. These were obtained by addition/subtraction of referenced data and are marked with an asterisk.

Air Carrier Profile

For example:

	<u>1976</u>	
	11,041.0k	← reference letter k
	504.1	also applies to the two
	11,545.1	subsequent data elements
	3,056.6m	← reference letter m refers to
		a different data source

The specific source number and page or table reference may then be found at the end of each modal profile. All sources are listed in Appendix A — Source Information.

The Percent Change 1976-1977 column refers to the usual percent difference between 1976 data and 1977 data. The average annual percent change 1967-1977 is equal to $C \times 100$, where C is obtained from the following relationship: $D_{77} = D_{67} (1 + C)^{10}$. (Note: D_{67} and D_{77} refer to 1967 and 1977 data, respectively; C is the change; and the relationship is derived from the compound interest formula.)

AIR CARRIER PROFILE (cont.)

	<u>1967</u>	<u>1976</u>	<u>1977</u>	1967-1977 Average Annual % Change	1976-1977 % Change
Aircraft Revenue-Hours (thousands)					
Domestic					
Certificated, all services	4,316n	5,047q	5,294q	2.1	4.9
Scheduled service	4,173	4,929	5,153	2.1	4.6
Nonscheduled service	143	118	141	-0.1	19.5
Supplemental	n/a	74s	74s	—	0.0
International					
Certificated, all services	1,008t	760u	746u	-3.0	-1.8
Scheduled service	751	659	646	-1.5	-2.0
Nonscheduled service	257	101	100	-9.0	-1.0
Supplemental	n/a	83s	95s	—	14.5
Total	n/a	5,964	6,221	—	4.3
Revenue Passenger-Miles (millions)					
Domestic					
Certificated, all services	79,522.2n	151,380.0q	163,218.7q	7.5	7.8
Scheduled service	75,487.3	145,271.3	156,609.2	7.6	7.8
Nonscheduled service	4,034.9	6,108.7	6,609.5	5.1	8.2
Supplemental	n/a	920.3s	1,015.6s	—	10.4
International					
Certificated, all services	32,256.2t	40,462.7u	42,862.8u	2.9	5.9
Scheduled service	23,259.3	33,716.7	36,609.6	4.6	8.6
Nonscheduled service	8,996.9	6,746.0	6,253.2	-3.6	-7.3
Supplemental	n/a	7,278.8s	8,967.8s	—	23.2
Total	n/a	200,041.8	216,064.9	—	8.0
Revenue Passenger Enplanements (millions)					
Domestic					
Certificated, all services	n/a	209.6q	225.9q	—	7.8
Scheduled service	128.5n	206.3	222.3	5.6	7.8
Nonscheduled service	n/a	3.3	3.6	—	9.1
International					
Certificated, all services	n/a	18.9u	19.8u	—	4.8
Scheduled service	14.0t	17.0	18.0	2.5	5.9
Nonscheduled service	n/a	1.9	1.8	—	-5.3
Total	n/a	228.5	245.7	—	7.6
Revenue Passenger Load Factor (%)					
Domestic					
Certificated scheduled service . .	56.5n	55.6q	55.8q	-0.1	0.4
International					
Certificated scheduled service . .	56.6t	54.8u	56.4u	0.0	2.9
Total	56.5v	55.4w	55.9w	-0.1	0.9
Revenue Ton-Miles of Freight (millions)					
Domestic					
Certificated, all services	1,804.6n	3,160.9q	3,389.4q	—	7.2
Scheduled service	1,400.5	2,887.8	3,084.2	8.2	6.8
Nonscheduled service	404.1	36.0*	69.7*	-16.1	93.6
Supplemental	n/a	237.1s	235.5s	—	-0.7
International					
Certificated, all services	1,633.1t	2,600.0*u	2,713.0*u	—	4.3
Scheduled service	950.6	2,186.4	2,618.6	4.8	6.8
Nonscheduled service	682.5	266.6*	317.6*	-7.4	19.1
Supplemental	n/a	147.0s	94.4s	—	-35.8
Total	n/a	5,760.9	6,102.4	—	6.0

GENERAL AVIATION PROFILE

	<u>1967</u>	<u>1976</u>	<u>1977</u>	<u>1967-1977 Average Annual % Change</u>	<u>1976-1977 % Change</u>
I. FINANCIAL					
Expenditures (\$ millions)					
Total	1,848a	5,171 ^r a	5,901a	12.3	14.1
Aircraft	377	1,188 ^r	1,520	15.0	27.9
Operating costs	1,471	3,983	4,381*	11.5	10.0
II. INVENTORY					
Number of Active Aircraft					
Total	114,186c	178,304c	184,294k	4.9	3.4
III. PERFORMANCE					
Number of Miles Flown (millions)					
Business	1,431.4d	1,562.9d	n/a	—	—
Commercial	568.5	885.0	n/a	—	—
Instructional	713.2	873.0	n/a	—	—
Personal	690.6	1,068.1	n/a	—	—
Other	36.2	86.9	n/a	—	—
Total	3,440.0	4,476.0	4,786.4m	3.4	6.9
Number of Hours Flown (millions)					
Business	6.6e	10.1e	11.9f	6.1	17.8
Commercial	3.9	7.0	4.2	0.7	-40.0
Instructional	6.3	8.6	6.1	-0.3	-29.1
Personal	5.2	9.8	11.5	8.3	17.3
Other	0.2	0.6	2.7	29.7	350.0
Total	22.2	36.1	36.4	5.1	0.8
Number of Fatalities					
Instructional	82f	87h	63h	-2.6	-27.6
Personal	667	826	766	1.4	-7.3
Business	156	106	109	-3.5	2.8
Executive	56	38	21	-9.3	-44.7
Aerial Application	43	37	36	-1.8	-2.7
Air Taxi	90	128	166	6.3	29.7
Other	154	119	234	4.3	96.6
Total	1,228	1,341	1,395	1.3	4.0
Accidents					
Fatal	603b	695 ^r b	702g	1.5	1.0
Total	6,115	4,193 ^r	4,286	-3.5	2.2
Accident Rate per 100,000 Aircraft Hours					
Fatal	2.72	2.04 ^r	1.96	-3.2	-3.9
Total	27.60	12.30 ^r	12.00	-8.0	-2.4
Accident Rate per Million Aircraft Miles					
Fatal	0.175j	0.156j	1.50j	24.0	861.5
Total	1.780	0.949 ^r	0.97	-5.9	3.2

r = revised
* = estimate

Sources: The following data references are listed in Appendix A, p. 171.

Source	Reference Number/Location	Source	Reference Number/Location	Source	Reference Number/Location
a	26) p. 5	e	43) Table 8.1/8.3	j	50) p. 50-51
b	43) Table 10.10	f	52) Personal communication	k	44) p. 2-35
c	43) Table 8.3/8.6	g	50) p. 47/48	m	53) Table 11
d	43) Table 8.2/8.5	h	50) p. 43		

AUTOMOBILE PROFILE

	<u>1967</u>	<u>1976</u>	<u>1977</u>	1967-1977 Average Annual % Change	1976-1977 % Change
I. FINANCIAL					
Expenditures (\$ millions)					
New and used cars	26,646a	61,517 ^r b*	71,996b*	10.5	17.0
Tires, tubes, accessories, and parts	3,848	8,210 ^r	9,495	9.5	15.7
Gasoline and oil	17,619	42,825 ^r	46,457	10.2	8.5
Tolls	464	841 ^r	879	6.6	4.5
Insurance premiums less claims paid	2,949	5,302 ^r	7,943	10.4	49.8
Auto registration fees . . .	1,313c	2,366c	2,468c	6.5	4.3
Driver's license fees	163	306	321	7.0	4.9
Repair, greasing, washing, parking, storage, rental . .	6,637a	23,124 ^r b	25,882b	14.6	11.9
Total	59,639	144,491 ^r	165,441	10.7	14.5
Expenditures (\$ millions)					
Taxi	687	1,112 ^r	1,196	5.7	7.6
II. INVENTORY					
Number of Vehicle Registra- tions					
Passenger cars and taxis . .	80,398,967e	110,188,640 ^f	113,696,111f	3.5	3.2
Motorcycles	1,953,022d	4,981,496 ^r	5,014,564	9.9	0.7
Motor Vehicle Licensed Drivers (thousands)	103,172s	134,036s	138,121s	3.0	3.0
Number of Employees					
Taxis	111,300g	77,400i	72,000i	-4.3	-7.0
III. PERFORMANCE					
Vehicle-Miles (millions) ¹					
Urban streets	414,975j	636,678 ^j	665,952j	4.8	4.6
Main rural roads	270,407	386,151 ^r	396,711	3.9	2.7
Local rural roads	88,821	75,350 ^r	78,552	-1.2	7.1
Total travel	774,203	1,098,179 ^r	1,141,215	4.0	3.9
Vehicle-Miles (millions)					
Motorcycles	7,737	22,417 ^r	22,566	11.3	0.7
Passenger car and taxis . .	766,466	1,075,762 ^r	1,118,649	3.9	4.0
Total	774,203	1,098,179 ^r	1,141,215	4.0	3.9
Passenger-Miles (millions)					
Total travel, passenger cars and taxis ²	1,708,225	2,366,676 ^r	2,461,028	3.2	4.0
Total travel, motorcycles ³ .	8,511	24,659 ^r	24,823	11.3	0.7
Average Miles Travelled per Vehicle					
Motorcycles	3,962	4,500	4,500	1.3	0.0
Passenger cars and taxis . .	9,531	9,763	9,839	0.3	0.8
Total	9,399	9,535	9,613	0.2	0.8
Number of Vehicles in All Accidents					
Motorcycles	230,000n	385,000n	440,000n	6.7	14.3
Passenger cars	20,850,000	23,100,000	23,900,000	1.4	3.5
Taxis	170,000	180,000	220,000	2.6	22.2
Number of Vehicles in Fatal Accidents					
Motorcycles	1,750	3,000	3,900	8.3	30.0
Passenger cars	50,400	41,200	42,900	-1.6	4.1
Taxis	200	410	570	11.0	39.0

BUS PROFILE

	<u>1967</u>	<u>1976</u>	<u>1977</u>	<u>1967-1977 Average Annual % Change</u>	<u>1976-1977 % Change</u>
I. FINANCIAL					
Expenditures (\$ millions)					
School bus	879a	2,372a	2,502a	1.8	5.5
Operating Revenues (\$ millions)					
Intercity bus, total	767.8b	1,231.9b	1,302.9 ^{Pb}	5.4	5.8
Intercity bus, Class I*	669.6	932.4 ^r	982.3 ^P	3.9	5.4
Operating Expenses (\$ millions)					
Intercity bus, total	682.0	1,179.9	1,247.4 ^P	6.2	5.7
Intercity bus, Class I*	591.8	890.5 ^r	937.6 ^P	4.7	5.3
Taxes Assignable to Operations (\$ millions) ¹					
Intercity bus, total	67.2	100.6 ^f	104.3 ^P	4.5	3.7
Intercity bus, Class I*	58.6	75.3 ^r	79.0 ^P	3.0	4.9
II. INVENTORY					
Number of Operating Companies					
Intercity bus, total	1,050	1,000	1,050 ^P	0.0	5.0
Intercity bus, Class I*	177	46 ^r	46 ^P	-12.6	0.0
Number of Vehicles					
Intercity bus, total	20,800	20,100	20,100 ^P	-0.3	0.0
School bus	247,835d	379,178d	391,393d	4.7	3.2
Intercity bus, Class I*	12,307b	8,580 ^r b	8,270 ^P b	-3.9	-3.6
Number of Employees of Operating Companies					
Intercity bus, total	47,200	46,000	43,900 ^P	-0.7	-4.6
Miles of Highway Served					
Intercity, total	263,000	276,000	277,000 ^P	0.5	0.4
III. PERFORMANCE					
Vehicle-Miles (millions)					
Commercial bus ²					
Urban streets	1,934g	1,721 ^r g	1,760g	-0.9	2.3
Main rural roads	1,007	1,087 ^r	1,086	0.8	-0.1
Local rural roads	182	91 ^r	91	-6.7	0.0
Total travel	3,123	2,899	2,937	-0.6	1.3
School and nonrevenue bus					
Urban streets	338	883 ^r	909	10.4	2.9
Main rural roads	791	1,342 ^r	1,401	5.9	4.4
Local rural roads	727	637 ^r	640	-1.3	0.5
Total travel	1,856	2,862	2,950	4.7	3.1
All buses					
Urban streets	2,272	2,604 ^r	2,669	1.6	2.5
Main rural roads	1,798	2,429 ^r	2,487	3.3	2.4
Local rural roads	909	728 ^r	731	-2.2	0.4
Total travel	4,979	5,761	5,887	1.7	2.2
Revenue Passenger-Miles (millions)					
Intercity bus, total	24,900b	25,100b	25,700 ^P b	0.3	2.4
Intercity bus, Class I*	19,700	15,800 ^r	16,400 ^P	-1.8	3.8
Number of Revenue Passengers (millions)					
Intercity bus, total	400	340	332 ^P	-1.9	-2.4
Intercity bus, Class I*	230.4	127.7 ^r	124.9 ^P	-5.9	-2.2

TRUCK PROFILE

	<u>1967</u>	<u>1976</u>	<u>1977</u>	1967-1977 Average Annual % Change	1976-1977 % Change
I. FINANCIAL					
Revenues (\$ millions)					
Local	24,507 ^a	54,531 ^{ra†}	67,520 ^{a*}	10.7	23.8
Intercity					
ICC-regulated	11,308	26,000	31,000 [*]	10.6	19.2
Non-ICC-regulated	17,622	30,245 ^r	36,322 [*]	7.5	20.1
Operating Revenues of Class I Intercity Motor Carriers (\$ millions)					
Freight, intercity, common carriers	7,524 ^b	16,048 ^c	19,591 ^{pc}	10.0	22.1
Freight, intercity, contract carriers	266	79	128 ^p	-7.1	62.0
Freight, local cartage	170	832	1,001 ^p	19.4	20.3
Trans. for other Classes I and II carriers	61	146	161 ^p	10.2	10.3
Other	72	1,254	1,364 ^p	34.2	8.8
Total	8,091	18,360	22,245 ^p	10.6	21.2
Operating Expenses of Class I Intercity Motor Carriers (\$ millions)	7,796 ^d	17,236	21,090 ^p	10.5	22.4
II. INVENTORY					
Number of Truck Registrations					
Private and commercial	15,352,978 ^e	26,524,112 ^e	28,311,953 ^e	6.3	6.7
Federal	117,528 ^f	192,924 ^f	199,791 ^f	5.5	3.6
State, county, municipal	722,270	1,002,561	1,050,741	3.8	4.8
Total	16,192,776 ^e	27,719,597 ^e	29,562,485 ^e	6.2	6.6
Total Number of Employees Trucking and Trucking Terminals	933,800 ⁱ	1,008,500 ^j	1,037,500 ^j	1.1	2.9
Number of Companies, Class I Intercity Carriers of Property	1,198 ^b	852 ^c	813 ^{pc}	-3.8	-4.6
Number of Employees, Class I Intercity Carriers of Property	424,689 ^d	444,955	472,636 ^p	1.1	6.2
III. PERFORMANCE					
Vehicle-Miles (millions)					
Urban streets	68,284 ^k	144,877 ^{rk}	153,350 ^k	8.4	5.8
Main rural roads	88,876	152,593 ^f	165,120	6.4	8.2
Local rural roads	25,296	10,480 ^f	10,995	-8.0	4.9
Total travel	182,456	307,950 ^f	329,465	6.1	7.0
Average Miles Travelled per Vehicle					
Single-unit trucks	9,598	9,369	9,400	-0.2	0.3
Combination trucks	42,176	48,297	50,206	1.8	4.0
All trucks	11,268	11,086	11,145	-0.1	0.5
Ton-Miles (millions)					
Intercity	388,500 ^m	510,000 ⁿ	555,000 ^{pn}	3.6	8.8

TRUCK PROFILE (cont.)

	<u>1967</u>	<u>1976</u>	<u>1977</u>	<u>1967--1977</u> <u>Average</u> <u>Annual</u> <u>% Change</u>	<u>1976--1977</u> <u>% Change</u>
Vehicle Involvement Rate					
Per 100 million vehicle-					
miles					
Combination	n/a	5.75 ^h	5.86 ^h	—	1.9
Single-unit	n/a	3.79	4.01	—	5.8
Total Truck	n/a	4.29	4.49	—	4.7
Per 10,000 registered					
vehicles					
Combination	n/a	27.78	29.44	—	6.0
Single-unit	n/a	3.54	3.77	—	6.5
Total Truck	n/a	4.76	5.01	—	5.3

p = preliminary, r = revised, n/a = not available

* = estimate

¹Includes all fatalities in the accident in which the vehicle types listed were involved.

†Revised to eliminate small trucks used for predominantly personal transportation.

Source: The following data references are listed in Appendix A, p. 171.

<u>Source</u>	<u>Reference</u> <u>Number/Location</u>
a	26) p. 4
b	20) p. 141, Table 18
c	19) p. 139, Table 10
d	20) p. 142, Table 19
e	46) Table MV-1
f	46) Table MV-9
g	45) p. 1/2/3/4
h	49) Personal communication
i	41) p. 597
j	42) Table B-2
k	46) Table VM-1
m	22) p. 87
n	19) p. 134, Table 3
q	21) Personal communication
s	26) p. 14
u	7) p. 3

WATER TRANSPORT PROFILE

	<u>1967</u>	<u>1976</u>	<u>1977</u>	<u>1967-1977 Average Annual % Change</u>	<u>1976-1977 % Change</u>
I. FINANCIAL					
Revenues (\$ millions)					
Domestic Freight	1,674a*	3,419a*	3,788a*	8.5	10.8
Coastal waterways	693	1,296	1,426††	7.5	10.0
Inland waterways	370	1,139	1,253††	13.0	10.0
Great Lakes	210	390	429††	7.4	10.0
Locks, channels, etc.	401	594	680††	5.4	14.5
International freight	2,631	5,441	6,094††	8.8	12.0
Domestic passengers, intercity . . .	12	18	19	4.7	5.6
International passenger ¹	324	270	269	-1.8	-0.4
Revenue of Class A and B Carriers by Inland and Coastal Waterways (\$ millions)					
Line service operating revenues					
Freight	216b	683c	594 ^P c	10.7	-13.0
Passenger	10	16	14 ^P	3.4	-12.5
Other	9*	23	24 ^P	10.3	4.3
Other operating revenue	4	4	4 ^P	0.0	0.0
Revenue from terminal operations . .	27	14	19 ^P	-3.5	35.7
Rent and motor carrier revenue . . .	30*	37	36 ^P	1.8	-2.7
Total waterline operating revenues .	296	777	691 ^P	8.9	-11.1
Revenues of U.S. Commercial Fishing Fleet					
U.S. Commercial Landings (\$ millions)	440f	1,353d	1,515d	13.2	12.0
Revenues of Maritime Carriers (\$ millions)					
Coastal and intercoastal service . . .	78e	226c	177 ^P c	8.5	-21.7
Charter	44	84	93 ^P	7.8	10.7
Total vessel operating revenues . . .	602	1,475	1,539 ^P	9.8	4.3
Total waterline operating revenues . .	674	1,583	1,643 ^P	9.3	3.8
Operating Expenses of Classes A and B Carriers by Inland and Intracoastal Waterways (\$ millions)					
	259g	660	638 ^P	9.4	-3.3
Operating Expenses of Maritime Carriers (\$ millions)					
	637c	1,436	1,497 ^P	8.9	4.2
Government Expenditures (\$ millions)					
Federal expenditures					
Coast Guard	497h	1,075h	n/a	—	—
Merchant Marine	284	627	n/a	—	—
Total waterways	387	664	n/a	—	—
Inland and intracoastal waterways ²	207	355	n/a	—	—
State and local expenditures					
Total waterways	319	650	n/a	—	—
II. INVENTORY					
Number of Companies, Class A and B Carriers by Inland and Coastal Waterways					
	89b	76 ^r c	68 ^P	-2.7	-10.5
Number of Companies, Maritime Carriers					
	17e	5	4 ^P	-13.5	-20.0
Number of Employees					
Ships, boat building, and repairs . .	176,200l	213,600m	226,000m	2.5	5.8
Water transportation	242,800q	197,000s	199,000s	-2.0	1.0

WATER TRANSPORT PROFILE (cont.)

	1967	1976	1977	1967-1977	
				Average Annual % Change	1976-1977 % Change
Cargo Capacity (net tons)					
Total non-self-propelled vessels . . .	n/a	35,645,352cc	38,616,741cc	—	8.3
Dry cargo barges and scows	n/a	27,135,336	29,096,901	—	7.2
Tank barges	n/a	8,510,016	9,519,840	—	11.9
Total Number of Marine Accidents in Waterborne Transport⁴					
	2,353t	4,211t**	3,574t	4.3	-15.1
Total Number of Fatalities in Waterborne Transport⁵					
Inspected, total	178u	269n**	216k	2.0	-19.7
Inspected, total	55*	53*	30*	-5.9	-43.4
Passenger and ferry, large and small	1	0	15	-31.1	—
Freight	38	38	4	-20.2	-89.5
Cargo, barge	0	0	0	0.0	0.0
Tank ships and tank barges	16	5	9	-5.6	80.0
Government Owned Vessels	0	0	0	0.0	0.0
Miscellaneous	0	10	2	—	-80.0
Uninspected, total	123*	216*	186*	4.2	-13.9
Commercial fishing	32	86	53	5.2	-38.4
Tugs	19	20	10	-6.2	-50.0
Foreign	45	34	10	-14.0	-70.6
Miscellaneous	27	76	113	15.4	48.7
Total Number of Injuries in Waterborne Transport⁵					
Inspected, total	118	153**	136	1.4	-11.1
Inspected, total	32*	57*	33*	0.3	-42.1
Passenger and ferry, large and small	21	27	5	-13.4	-81.5
Freight	16	10	9	-5.6	-10.0
Cargo, barge	0	0	0	0.0	0.0
Tank ships and tank barges	11	13	16	3.8	23.1
Government Owned Vessels	0	0	0	0.0	0.0
Miscellaneous	0	7	3	—	-57.1
Uninspected, total	86*	96*	103*	1.8	7.3
Commercial fishing	18	31	23	2.5	-25.8
Tugs	7	24	22	12.1	-8.3
Foreign	35	6	11	-10.9	83.3
Miscellaneous	26	35	47	6.1	34.3
Number of Fatalities in Recreational Boating					
Inboard	167x	100aa	124aa*	-2.9	24.0
Outboard	708*	627	619	-1.3	-1.3
Inboard/Outboard ⁶	n/a	43	37	—	-14.0
Jet ⁶	n/a	2	12	—	500.00
Sail ⁶	n/a	48	46	—	-4.2
Manual ⁶ (oars and paddle)	n/a	206	269	—	30.6
Other	290*	61	14	-26.2	-77.0
Propulsion Unknown	147*	177	191	2.7	7.9
Total	1,312	1,264	1,312	0.0	3.8

¹Revenues paid by American travelers to U.S. and foreign flag carriers.

²Does not include Great Lakes and coastal harbors.

³Privately owned vessels with a passenger capacity greater than 125.

⁴Casualties to commercial vessels under USCG jurisdiction.

⁵Fatalities/injuries are on a fiscal year basis due to vessel casualties.

⁶The 1967 figure is included under "other".

†This data is also included in the Domestic Coastwise Figure above.

††Estimate

RAIL PROFILE

A. CLASS I RAILROADS

	<u>1967</u>	<u>1976</u>	<u>1977</u>	<u>1967-1977</u> <u>Average</u> <u>Annual</u> <u>% Change</u>	<u>1976-1977</u> <u>% Change</u>
I. FINANCIAL					
Revenues, Class I Line-Haul Railroads (\$ millions)					
Passenger	485.4a	327.1†a	337.2†a	-3.6	3.1
Commutation	143.8	218.5†	226.3†	4.6	3.6
Other than commutation	341.4	108.0†	110.8†	-10.6	2.6
Freight	9,130.2b	17,400.2b	18,892.4b	7.5	8.6
Mail	263.6	**	**	—	—
Express	60.7	**	**	—	—
Other	426.1	809.0	860.9	7.3	6.4
Total operating revenues	10,366.0	18,536.5	20,090.5	6.8	8.4
Operating Expenses, Class I Line-Haul Railroads (\$ millions)					
	8,204.5	14,909.8	16,372.7	7.2	9.8
II. INVENTORY					
Number of Vehicles, Class I Railroads					
Freight-carrying cars	1,477,166c	1,268,735c	1,232,080c	-1.8	-2.9
Passenger train cars	18,610d	3,253†d	3,176†d	-16.2*	-2.4
Locomotives	27,687e	27,215e	27,283e	-0.2	0.2
Number of Companies, Class I Railroads					
	76n	56f	57f		1.8
Number of Employees, Class I Railroads					
	610,191g	468,382†g	464,073†g	-2.7	-0.9
Line Mileage, All Line-Haul Railroads .					
	209,826h	192,396h	191,205h	-0.9	-0.6
III. PERFORMANCE					
Car Mileage, Class I Railroads (millions)					
Freight	30,086i	28,962i	29,181i	-0.3	0.8
Passenger	1,374	70	67	-26.1*	-4.3
Total	31,546	29,135	29,348	-0.7	0.7
Train Mileage, Class I Railroads (millions)					
Freight	420.4	424.6	427.7	0.2	0.7
Passenger	149.8	34.8	32.0	-14.3	-8.0
Total	570.2	459.4	459.7	-2.1	0.1
Locomotive Mileage, Class I Railroads (millions)					
Freight	1,299.4	1,290.1	1,302.5	0.0	1.0
Passenger	303.3	17.9	16.0	-25.5*	-10.6
Total	1,602.7	1,308.0	1,318.5	-1.9	0.8
Revenue Passengers Carried, Class I Railroads (millions)					
Commutation	199a	190†a	195†a	-0.2	2.6
Other passenger	98	62†	62†	-4.5	0.0
Revenue Passenger Miles, Class I Railroads (millions)					
Commutation	4,281	4,340†	4,464†	0.4	2.9
Other passenger	10,920	1,422†	1,412†	-18.5*	-0.7
Average Passenger Trip Length, Class I Railroads (miles)					
Commutation ¹	22q	23q	23q	0.5	0.0
Other passenger ¹	111	74	73	-4.1	-1.4
Average Passenger Load Factor, Class I Railroads					
	35.8t	39.2s	40.6s	1.3	3.6

RAIL PROFILE
B. AMTRAK

	<u>1967†</u>	<u>1976</u>	<u>1977</u>	<u>1967—1977</u> <u>Average</u> <u>Annual</u> <u>% Change</u>	<u>1976—1977</u> <u>% Change</u>
I. FINANCIAL					
Revenues (\$ thousands)					
Passenger		237,332a	245,050a		3.3
Commutation		4,674	3,737		-20.0
Other than commutation		232,658	241,313		3.7
Other		49,819	65,105		30.7
Total operating revenues		287,152	310,155		8.0
Operating Expenses		651,700	734,869		12.8
II. INVENTORY					
Number of Vehicles					
Passenger train cars		2,062	2,154		4.5
Locomotives		379	369		-2.6
Number of Companies		1	1		0.0
Number of Employees		13,805	17,960		30.1
Line Mileage		25,332b	25,811b		1.9
III. PERFORMANCE					
Car Mileage (millions)					
Passenger		246.5a	242.1a		-1.8
Train Mileage (millions)					
Passenger		30.9*	33.2*		7.4
Locomotive Mileage (millions)					
Passenger		46.0	45.1		-2.0
Revenue Passengers Carried (millions)					
Commutation		3.2	3.0		-6.3
Other passenger		15.4	15.9		3.2
Revenue Passenger Miles (millions)					
Commutation		130.2	124.3		-4.5
Other passenger		4,138.0	4,079.7		-1.4
Average Passenger Trip Length (miles)					
Commutation		40.2	40.7		-1.2
Other passenger		269.0	255.8		-4.9

n/a = not available

*Figure obtained by addition/subtraction and may not appear directly in data source.

†The National Railroad Passenger Corporation (Amtrak) came into operation in May 1971, thus no data are available.

Source: The following data references are listed in Appendix A, p. 171.

<u>Source</u>	<u>Reference</u> <u>Number/Location</u>
a	10) p. 16
b	23) p. 17

NATURAL GAS PIPELINE PROFILE

	<u>1967</u>	<u>1976</u>	<u>1977</u>	<u>1967-1977 Average Annual % Change</u>	<u>1976-1977 % Change</u>
I. FINANCIAL^{1,2}					
Operating Revenues (\$ millions)					
Total Operating Revenues	4,490a	15,416b	19,836b	16.0	28.7
Operating Expenses (\$ millions)					
Operation Expenses	3,094	11,345	15,407	17.4	35.8
Maintenance Expenses	84	211	254	11.3	20.4
Total Operating and Maintenance Expenses	3,178	11,556	15,661	17.3	35.5
Taxes					
Federal Taxes	157*	977*	974*	20.0	-0.3
State and Local Taxes	138*	312*	465*	12.9	49.0
Total Taxes	295	1,289	1,439	17.2	11.6
II. INVENTORY					
Number of Interstate Natural Gas Pipeline Companies					
	108m	122c	84q	-2.5	-31.1
Number of Employees ²					
	30,200k	38,100e	40,000e	2.9	5.0
Miles of Transmission Pipelines ³					
	225,400f	258,200f	260,500f	1.5	0.9
Total Natural Gas Pipeline Supplies Available ⁴ (trillion cubic feet)					
	233.3d	146.4d	139.7d	-5.0	-4.6
III. PERFORMANCE					
Total Natural Gas Pipeline Sales ⁴ (trillion cubic feet)					
	12.7	14.4	13.7	0.8	-4.9
Natural Gas Marketed Production (trillion cubic feet)					
	18.171n	19.952n	20.025n	1.0	0.4
Natural Gas to Consumers (trillion cubic feet)					
	18.172	19.946	19.520	0.7	-2.1
Total Fatalities					
	n/a	68j	38j	—	-44.1
Gas Distribution					
	n/a	53	27	—	-49.1
Gas Transmission					
	n/a	10	9	—	-10.0
Liquid Transmission					
	n/a	5	2	—	-60.0

*Figure obtained by addition/subtraction and may not appear directly in data source.

n/a = not available

¹Data for 1976 and 1977 not directly comparable to previous years due to reclassification of several companies.

²Investor-owned gas utility industry transmission companies only.

³Mileage does not include field and gathering pipelines or distribution mains.

⁴Major interstate natural gas pipeline companies only.

Source: The following data references are listed in Appendix A, p. 171.

<u>Source</u>	<u>Reference Number/Location</u>	<u>Source</u>	<u>Reference Number/Location</u>
a	1) Table 176	h	39) Table 33
b	2) Table 128	i	50) p. 70
c	13) Personal communication	j	50) p. 75
d	38) Table 22, 23	k	1) Table 199
e	2) Table 147	m	24) p. v
f	2) Table 42	n	40) Table 1
g	37) p. 835, Table 17	q	38) p. 1

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE

**SELECTED PASSENGER AND CARGO PERFORMANCE
INDICATORS BY MODE, 1967, 1976 AND 1977 (cont.)**

	<u>1967</u>	<u>1976</u>	<u>1977</u>
AUTOMOBILE (cont.)			
Vehicle-miles of travel per capita, passenger cars, taxis, motorcycles			
Urban streets	2,101.6	2,965.9	3,078.4
Main rural roads	1,369.4	1,798.8	1,833.8
Local rural roads	449.8	351.0	363.1
Total travel	3,920.9	5,115.7	5,275.3
Passenger-miles per capita			
Passenger cars and taxis, total travel	8,651.1	11,024.8	11,376.2
Motorcycles, total travel	43.1	114.9	114.7
Vehicle-miles of travel per vehicle, passenger cars, taxis			
Urban streets	5,161.4	5,778.1	5,857.3
Main rural roads	3,363.3	3,504.5	3,489.2
Local rural roads	1,104.8	683.8	690.9
Total travel	9,629.5	9,966.4	10,037.4
Passenger-miles per vehicle			
Passenger cars and taxis	21,246.9	21,478.4	21,645.7
Motorcycles	105.9	223.8	218.3
BUS			
U.S. population per intercity bus	9,493.1	10,680.0	10,762.8
Vehicle-miles per capita			
Commercial buses	15.8	13.5	13.6
School and non-revenue buses	9.4	13.3	13.6
All buses	25.2	26.8	27.2
Vehicle-miles per capita, all buses			
Urban streets	11.5	12.1	12.3
Main rural roads	9.1	11.3	11.5
Local rural roads	4.6	3.4	3.4
Total travel	25.2	26.8	27.2
Revenue passenger-miles per capita			
Total intercity bus	126.1	116.9	118.8
Revenue passenger-miles per vehicle			
Total intercity bus (millions)	1.2	1.2	1.3
TRUCK			
Vehicle-miles per capita, all trucks			
Urban streets	345.8	674.9	708.9
Main rural roads	450.1	710.8	763.3
Local rural roads	128.1	48.8	50.8
Total travel	924.0	1,434.5	1,523.0

**SELECTED PASSENGER AND CARGO PERFORMANCE
INDICATORS BY MODE, 1967, 1976 AND 1977 (cont.)**

	<u>1967</u>	<u>1976</u>	<u>1977</u>
CLASS I RAILROADS			
Revenue passenger-miles per capita			
Commutation	21.7	20.2	20.6
Other	55.3	6.6	6.5
Total	77.0	26.8	27.2
Revenue passenger-miles per passenger train car (millions)	0.8	1.8	1.9
Revenue ton-miles per capita	3,643.8	3,699.0	3,819.6
Revenue ton-miles per freight car (millions)	0.5	0.6	0.7
OIL PIPELINE			
Intercity ton-miles per capita, regulated plus non-regulated pipelines	1,828.2	2,436.3	2,588.6
Intercity ton-miles per mile of line, regulated plus non-regulated lines (millions)	1.7	2.3	n/a
Tons of petroleum transported per capita	n/a	4.4	n/a
Tons of petroleum transported per mile of line	n/a	4,122.2	n/a
GAS PIPELINE			
Cubic feet of gas consumed per capita (thousands)	92.0	93.0	90.2
Cubic feet of gas consumed per mile of transmission pipeline (millions)	80.6	77.3	74.9
Cubic feet of gas produced per capita (thousands)	92.0	92.9	92.6
Cubic feet of gas produced per mile of transmission pipeline (millions)	80.6	77.3	76.9
Operation expense per mile of transmission pipeline	13,726.7	43,938.8	59,144.0
Maintenance expense per mile of transmission pipeline	372.7	817.2	975.1

n/a = not available

Source: Per capita figures were based on 1967, 1976, and 1977 total resident populations of 197,457,000; 214,669,000; and 216,332,000, respectively (excluding Armed Forces abroad). The 1967 figure was obtained from the *Statistical Abstract of the United States, 1975*, Table 2, p. 5. The 1976 and 1977 figures were obtained from the *Statistical Abstract of the United States, 1978*, Table 14, p. 11.

All other figures were taken directly from the "Modal Profiles" section of this book.

TRANSPORTATION TRENDS

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1970-1982 Average	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20	2.25	2.30
1970-1979 Average	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20	2.25	2.30
1979-1982 Average	2.20	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80
1970-1982 Total	21.00	21.75	22.50	23.25	24.00	24.75	25.50	26.25	27.00	27.75	28.50	29.25	30.00
1970-1979 Total	21.00	21.75	22.50	23.25	24.00	24.75	25.50	26.25	27.00	27.75	28.50	29.25	30.00
1979-1982 Total	9.00	9.45	9.90	10.35	10.80	11.25	11.70	12.15	12.60	13.05	13.50	13.95	14.40

Source: U.S. Department of Transportation, Bureau of Economic Analysis, National Income and Product Accounts

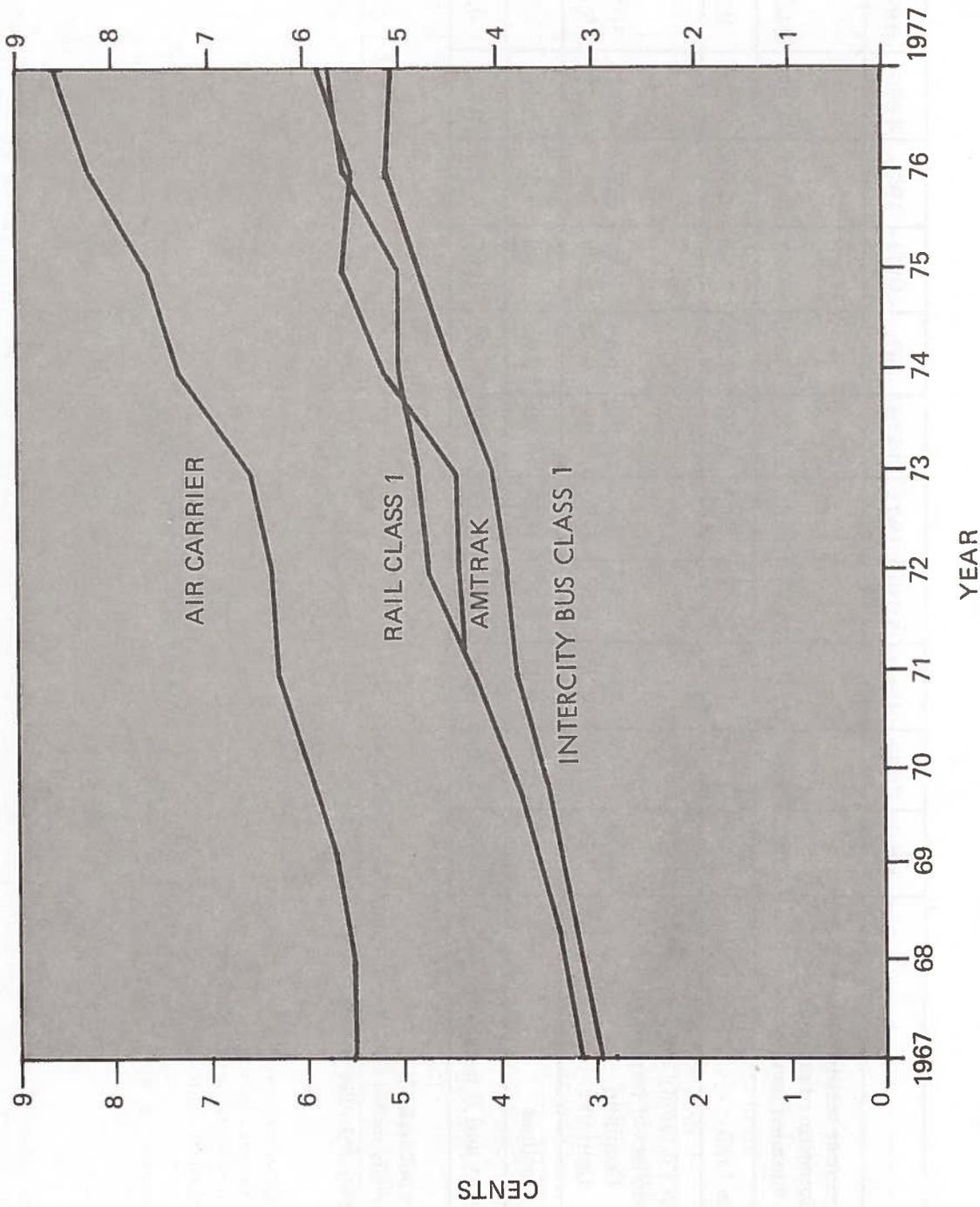


Figure 10. Average Passenger Revenue per Passenger-Mile, 1967 - 1977

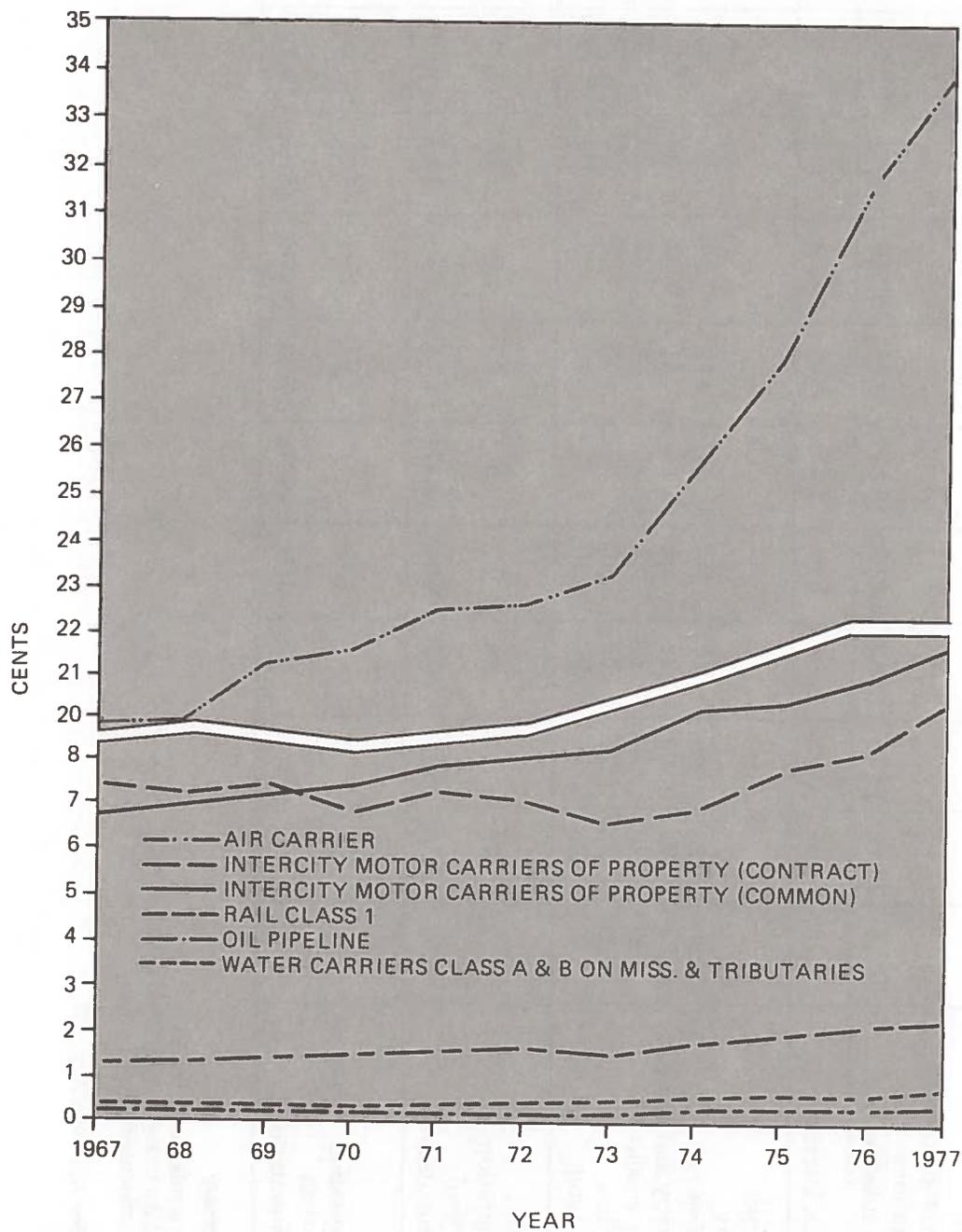


Figure 11. Average Freight Revenue per Ton-Mile, 1967 - 1977

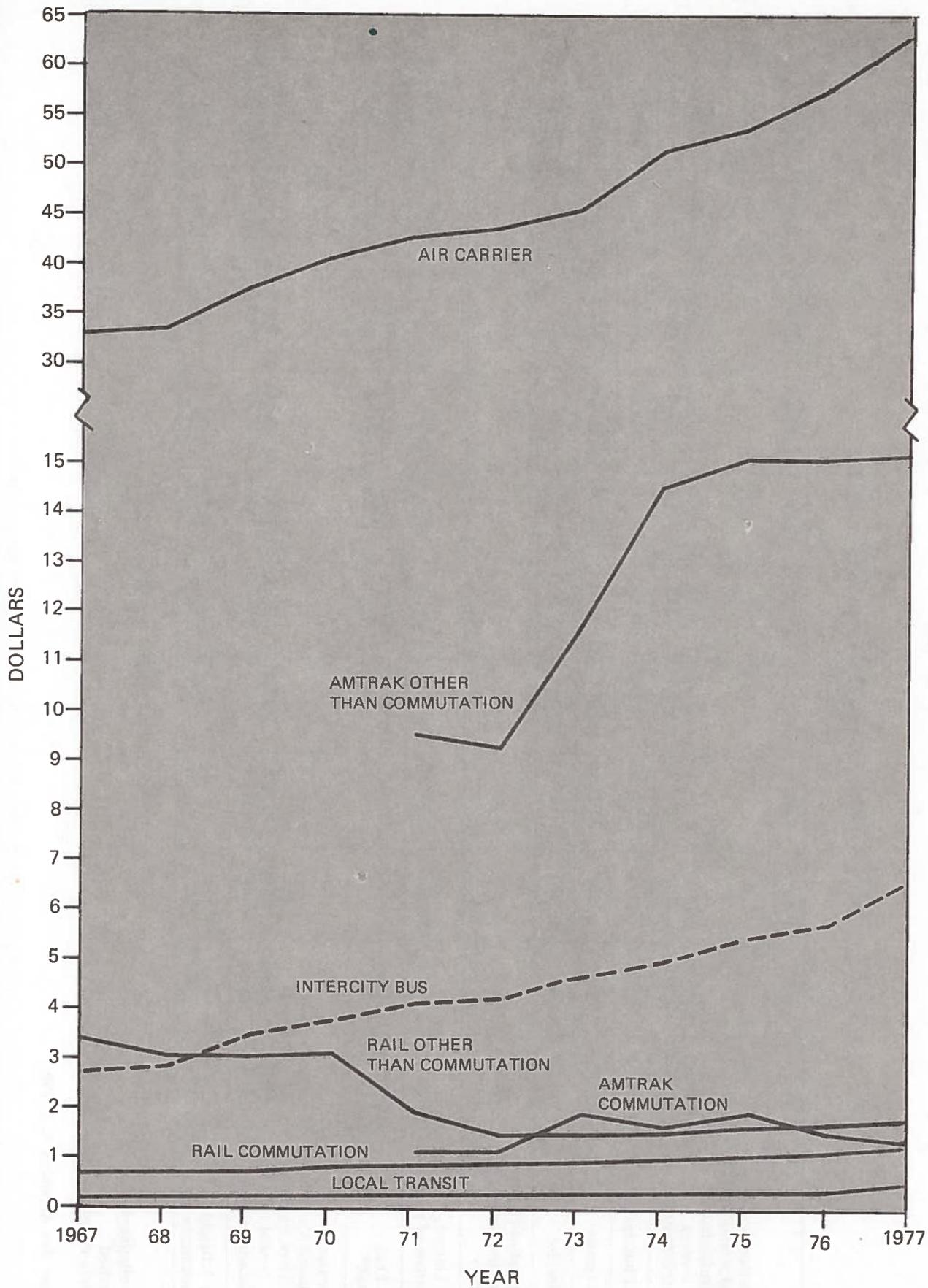


Figure 12. Average Passenger Fare, 1967 – 1977

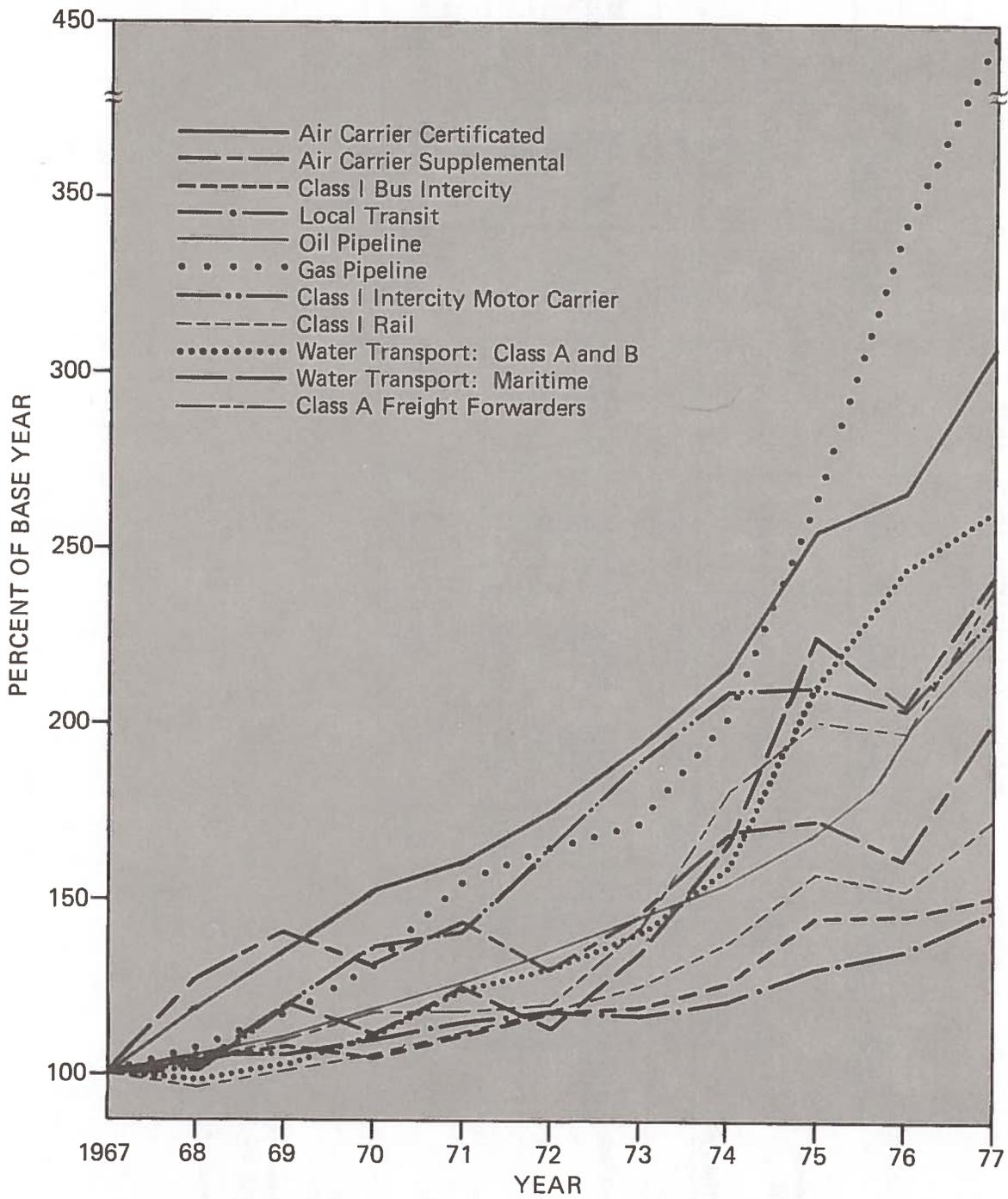


Figure 13. Total Operating Revenues, 1967 – 1977

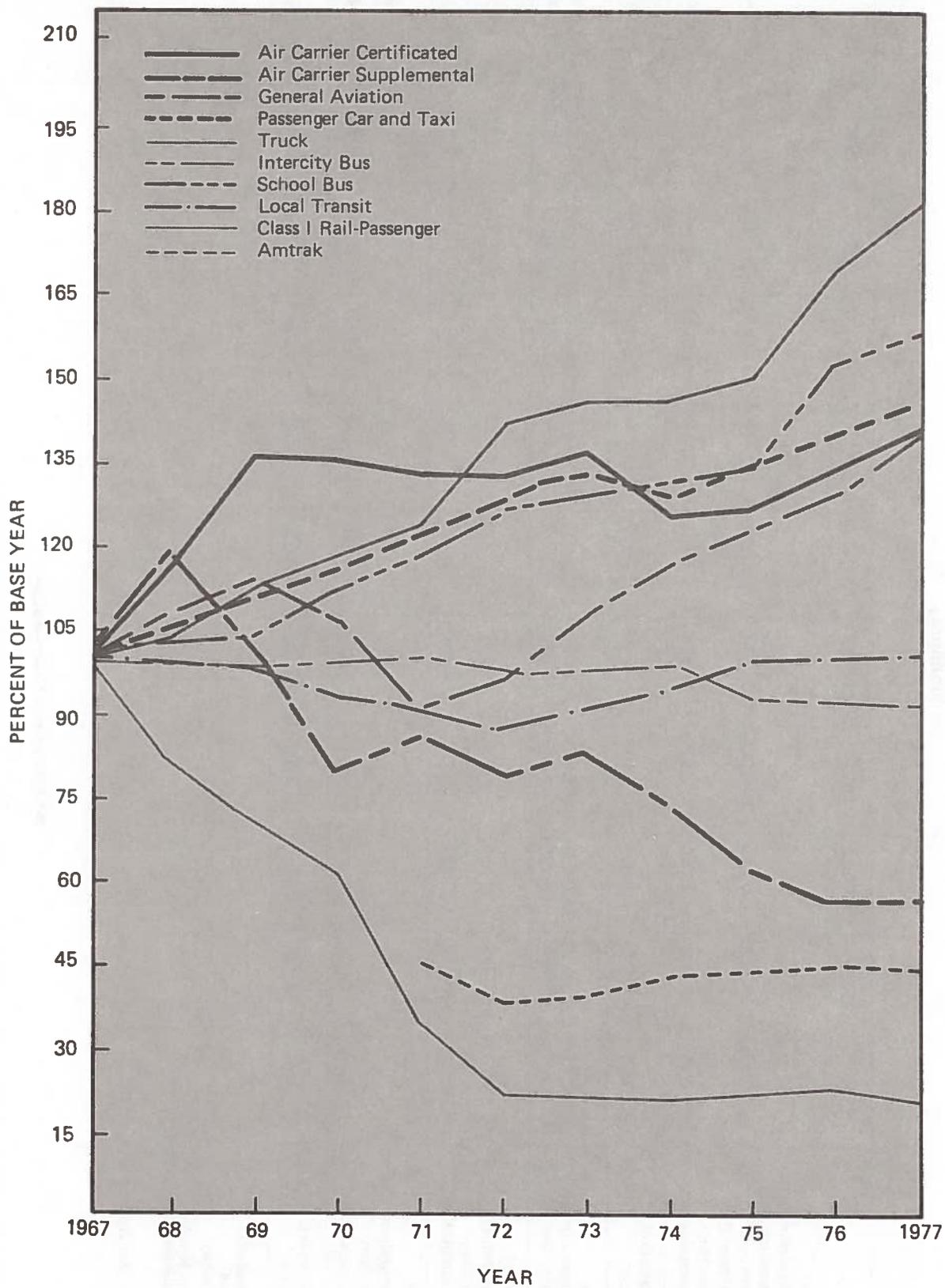


Figure 14. Vehicle-Miles, 1967 - 1977

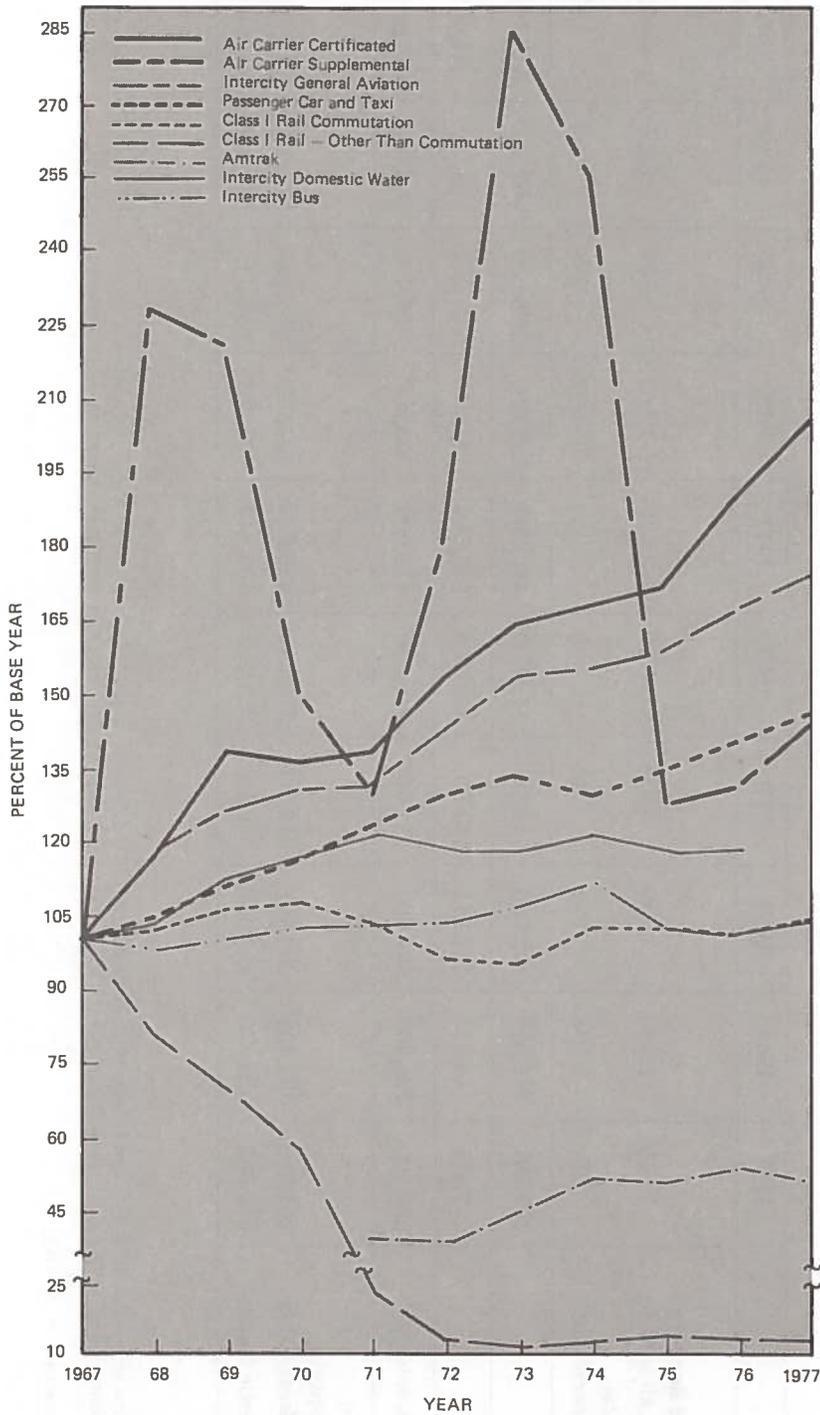


Figure 15. Passenger Miles, 1967 - 1977

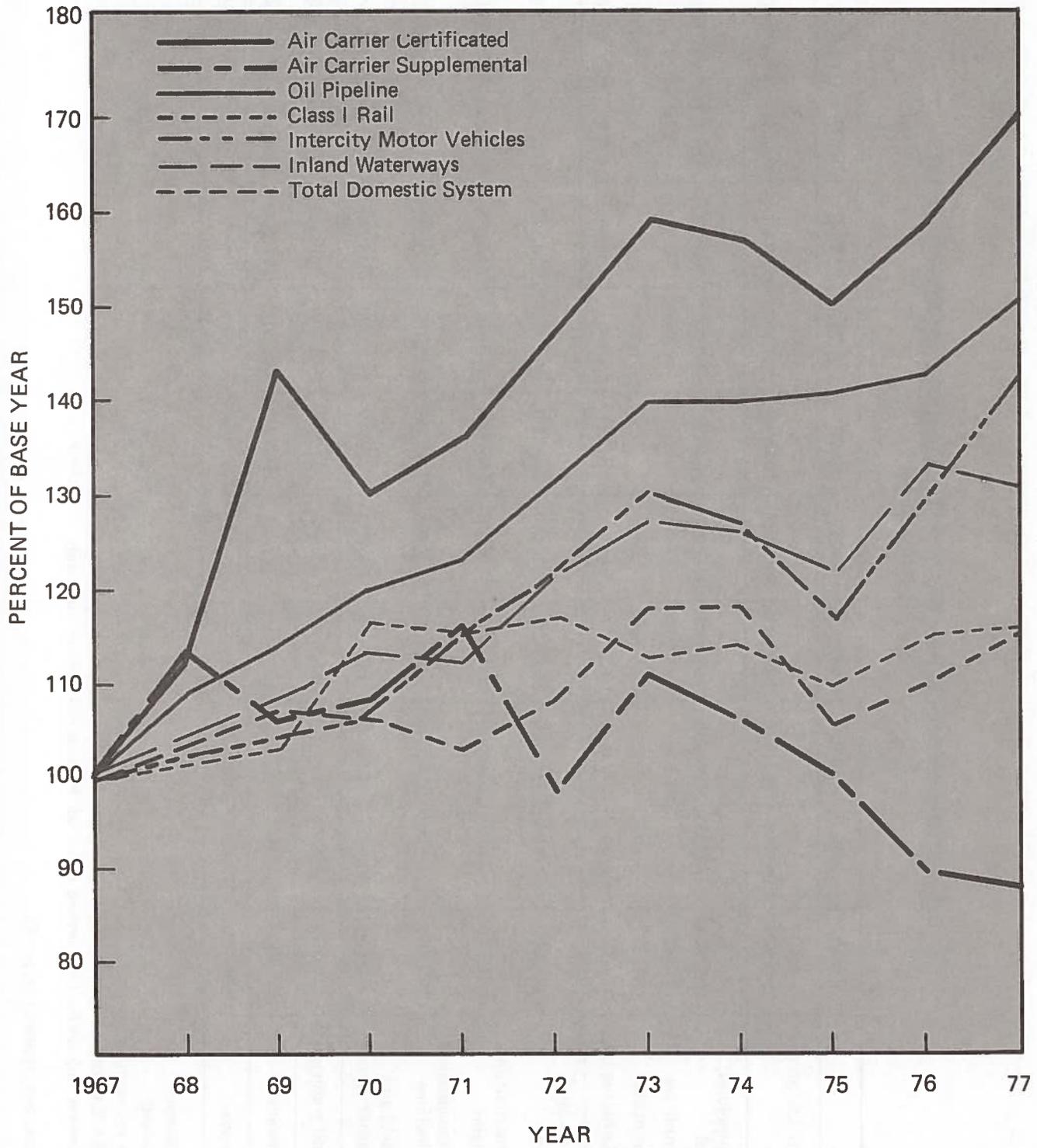


Figure 16. Cargo Ton-Miles 1967 - 1977

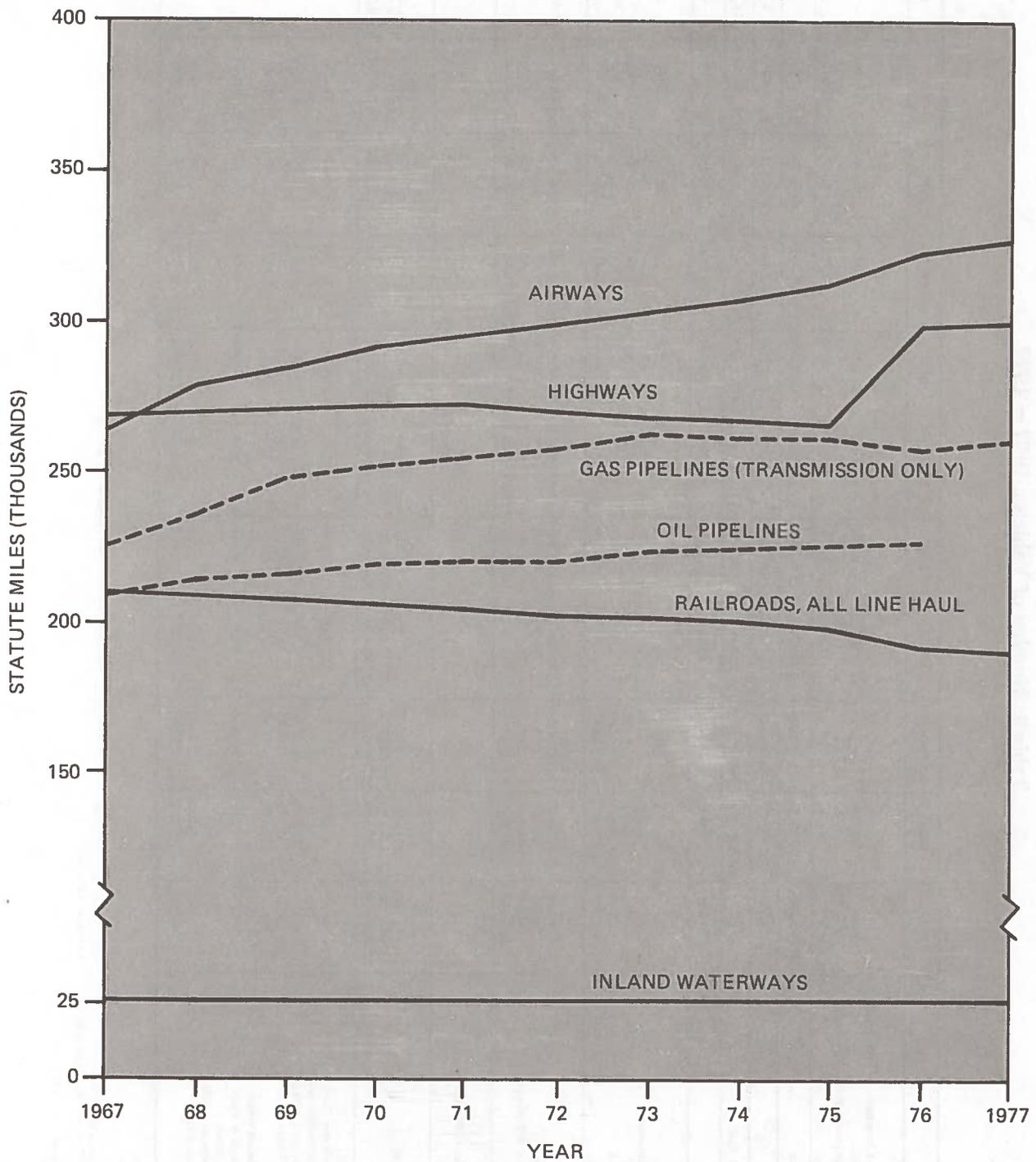


Figure 17. Basic Intercity Mileage Within the Continental United States, 1967 – 1977

Table 10. Number of New Vehicles Purchased, By Mode, 1967-1977

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Air Carrier (All Services)											
Fixed-Wing Transports	500	702	509	311	230	230	295	263	314	238	180
General Aviation	13,536	13,749	12,581	7,384	7,450	9,765	13,671	14,026	14,043	15,648	16,624
Passenger Car and Taxi	7,568,000	8,625,000	8,464,000	7,119,000	8,681,000	9,327,000	9,676,000	7,454,000	7,053,000	8,611,000	9,109,000
Motorcycles	n/a	n/a	680,000	1,125,000	1,565,000	1,725,000	1,255,000	1,580,000	990,000	740,000	970,000
Mopeds	-	-	-	-	-	-	-	13,000	32,000	78,000	190,000
Bicycles	n/a	7,500,000	7,100,000	6,900,000	8,900,000	13,900,000	15,200,000	14,100,000	7,300,000	8,100,000	9,400,000
Truck (Domestic)	1,523,000	1,807,000	1,936,000	1,746,000	2,011,000	2,486,000	2,915,000	2,511,000	2,248,000	2,944,000	3,353,000
Intercity Bus (Class I)	1,147	688*	617	867	831	917	833	626	733	619*	709
Local Transit											
Motor Bus	2,500	2,228	2,230	1,424	2,514	2,904	3,200	4,818	5,261	4,745	2,437 ^P
Subway and Elevated	0	0	0	0	0	0	0	0	0	4	62 ^P
Surface Rail	85	384	650	308	250	360	238	92	127	472	506 ^P
Trolley Coach	0	0	0	0	1	1	1	0	1	260	198 ^P
Total	2,585	2,612	2,880	1,732	2,764	3,265	3,439	4,910	5,389	5,481	3,203 ^P
Class I Railroad											
Freight Cars	70,096	46,810	53,200	56,031	45,408	37,391	34,171	36,315	41,692	30,836	27,098
Locomotives	1,109	978	1,158	1,029	1,179	1,377	1,165	1,018	772	438	820
Passenger Car and Pullman	146	65	240	302	281	334	83	85	265	349	153
Total	71,351	47,853	54,598	57,362	46,868	39,642	35,419	37,418	42,729	31,623	28,071
Amtrak**											
Passenger Car and Pullman	-	-	-	-	-	0	10	0	109	305	133
Locomotives	-	-	-	-	-	0	67	252	30	58	4
Total	-	-	-	-	-	0	77	252	139	363	137
Water											
Merchant Vessels	n/a	n/a	n/a	13	15	15	30	20	15	16	18
Gross Tonnage	n/a	n/a	n/a	342,000	419,000	439,000	987,000	697,000	452,000	616,000	920,198

n/a = not available

*Change in Class I definition.

**Amtrak established in May, 1971.

Source: See Appendix A, p. 164.

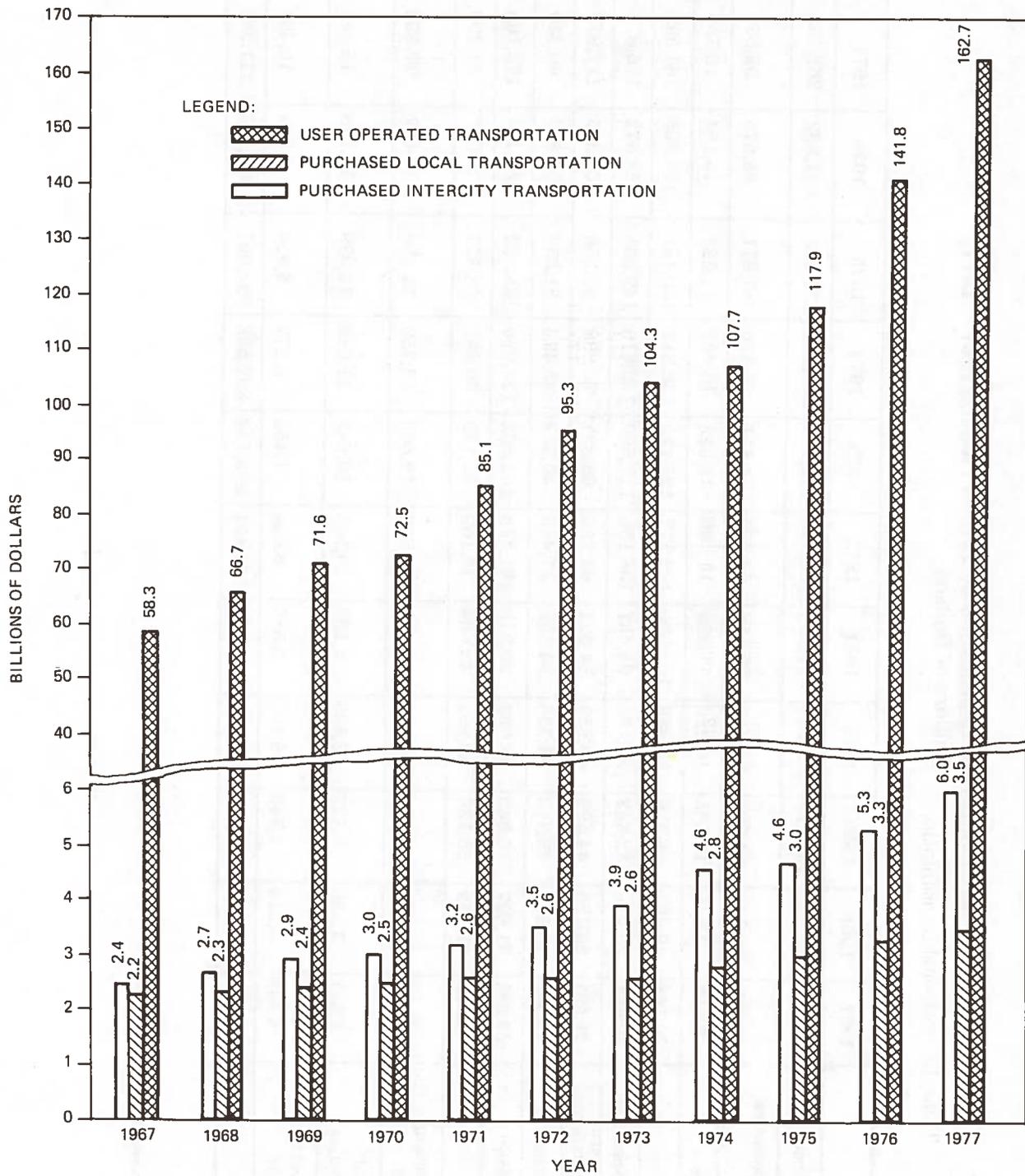


Figure 19. Personal Consumption Expenditures by Transportation Sector, 1967-1977

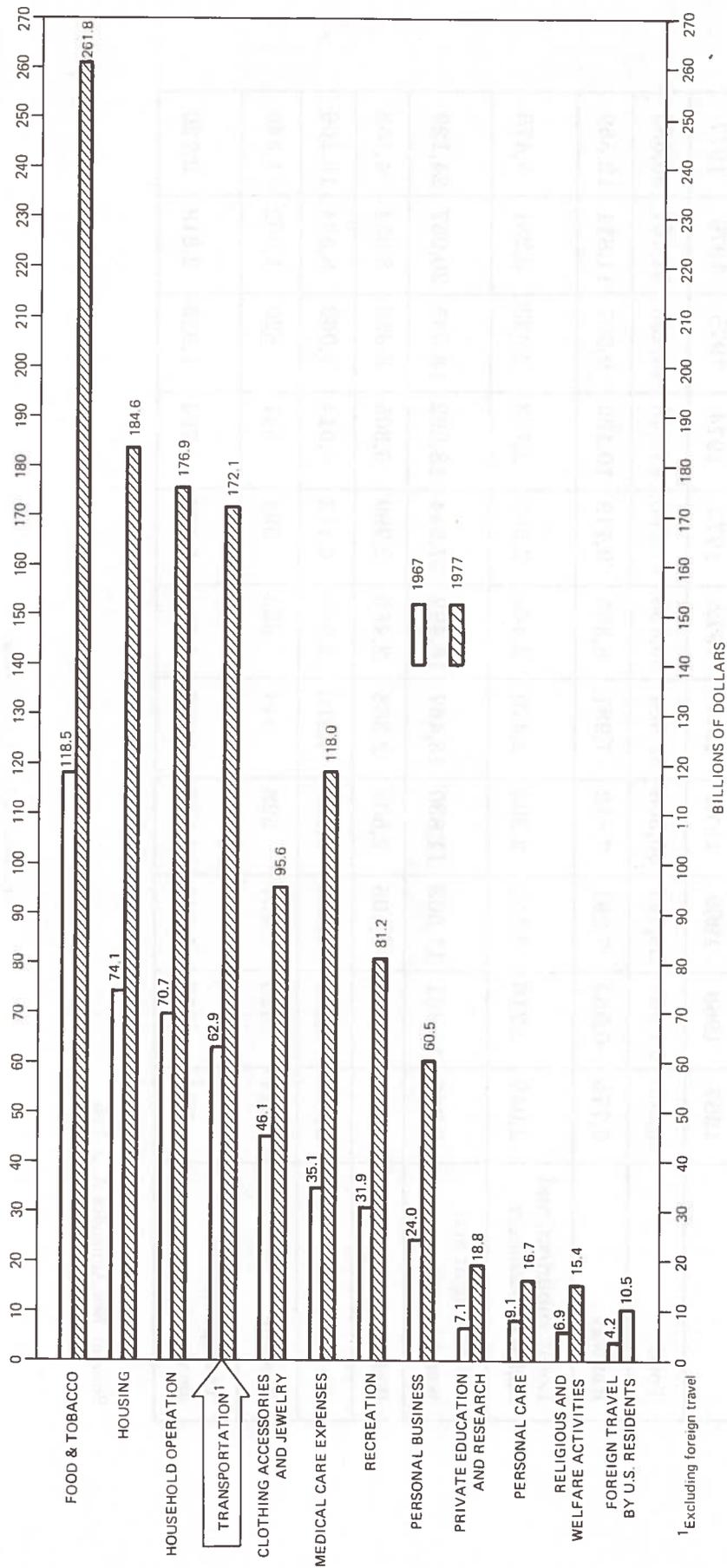


Figure 20. Personal Consumption Expenditures by Type of Product, 1967 and 1977

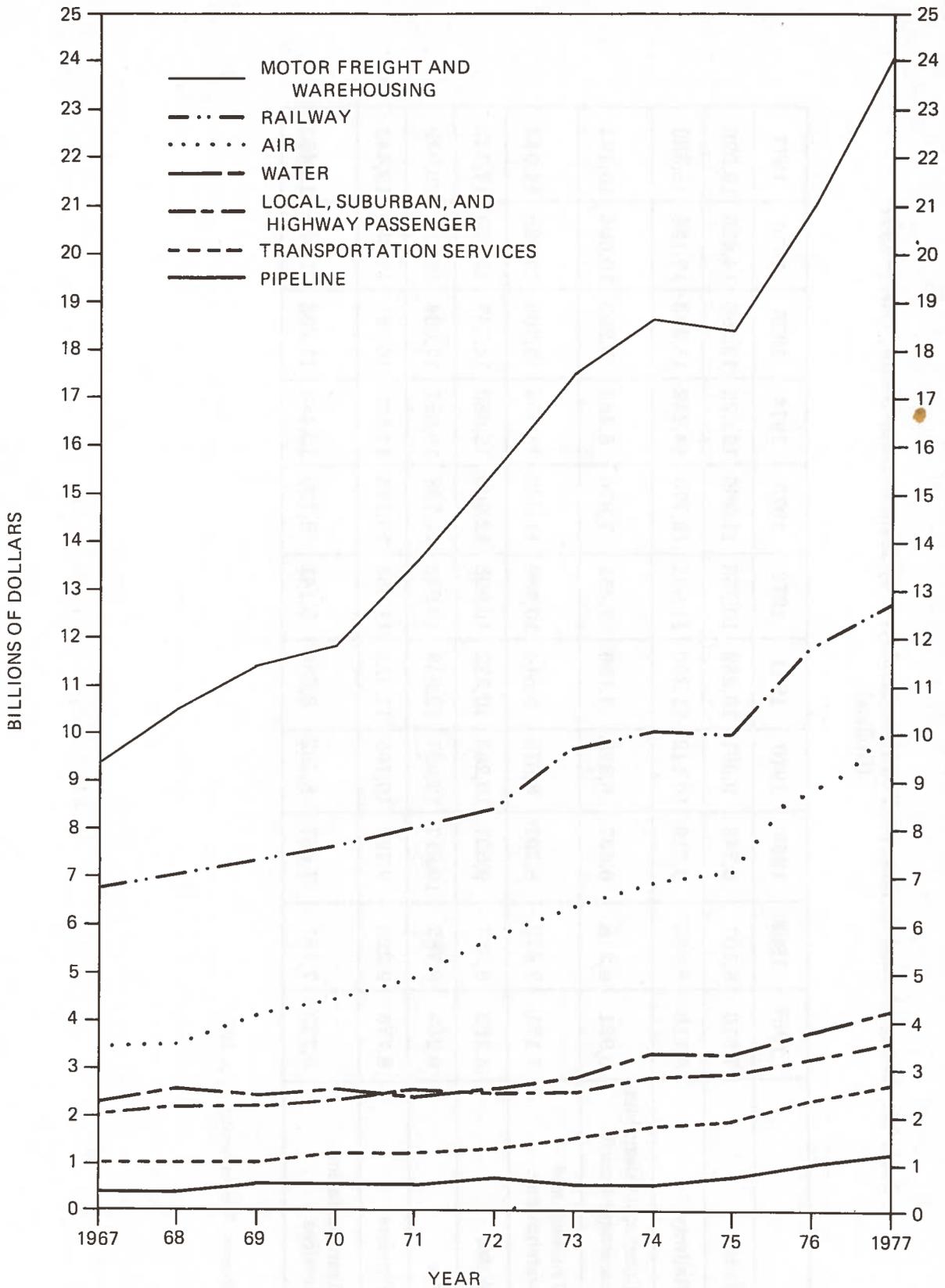


Figure 21. National Income by Transportation Sector, 1967-1977

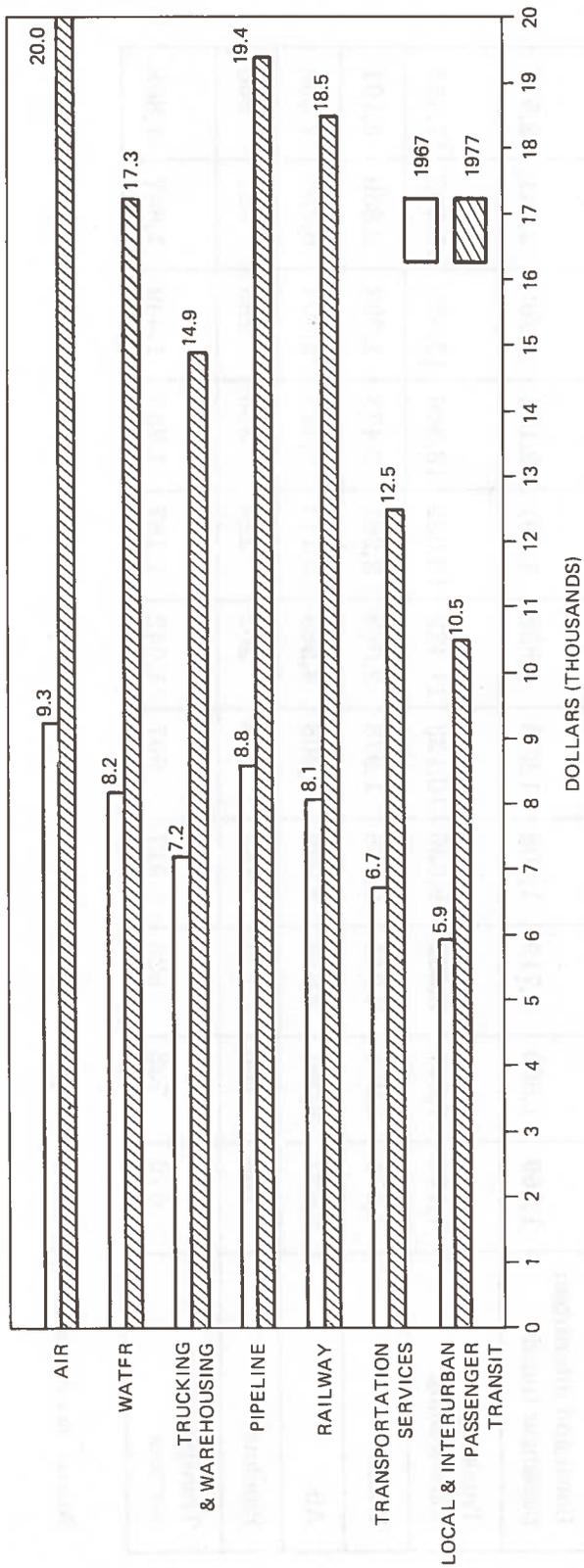


Figure 22. Average Annual Earnings per Full-Time Employees by Transportation Sector, 1967 and 1977

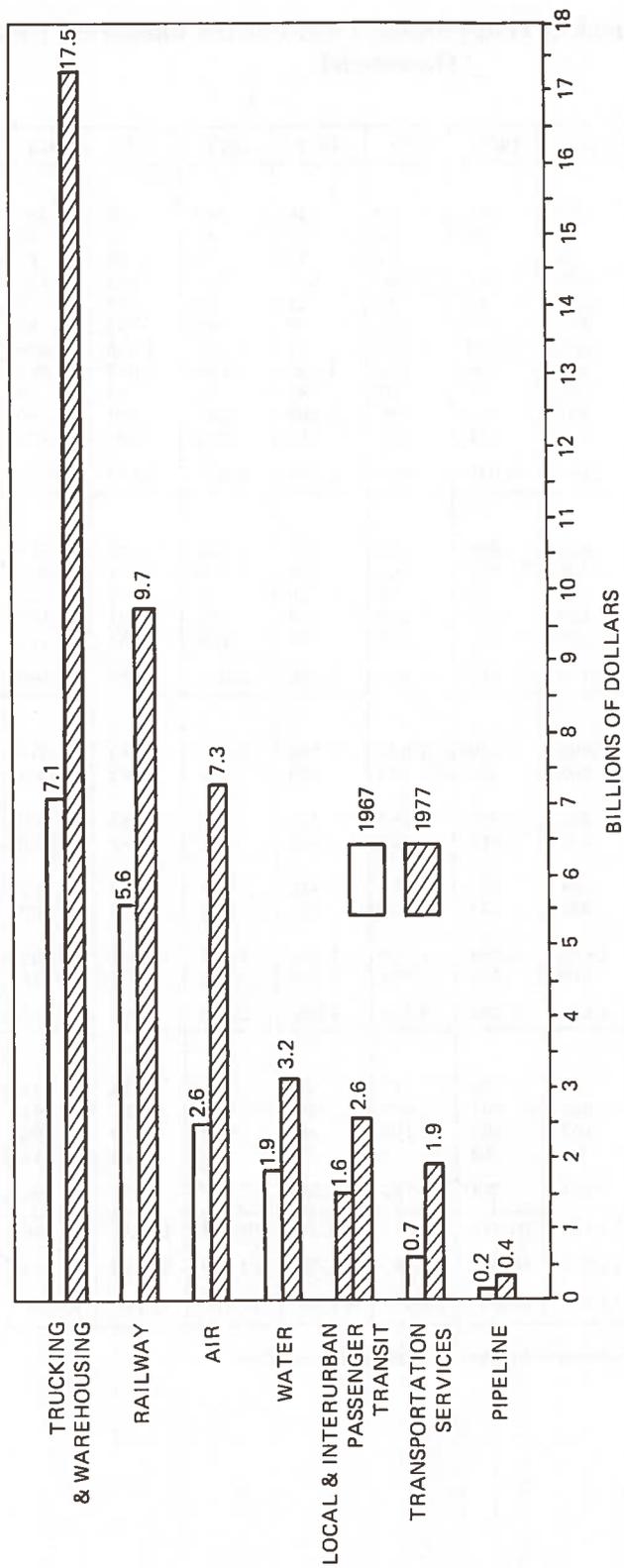


Figure 23. Wages and Salaries by Transportation Sector, 1967 and 1977

SUPPLEMENTARY DATA
Section II: Energy in Transportation

Table 19. U.S. Energy Consumption by the Transportation Sector
(at 5-Year Intervals 1950-1965 and Annually 1966-1978)

Year	Coal ¹		Petroleum		Natural Gas ²		Total Fossil Fuels		Sales of Electricity ³		Total Transportation Consumption		Total Gross Energy Consumption Quadrillion Btu
	Million Short Tons	Trillion ⁴ Btu	Million Barrels	Trillion ⁴ Btu	Trillion Cubic Feet	Trillion ⁴ Btu	Trillion Btu	Million Kilowatt-Hours	Trillion ⁴ Btu	Trillion Btu	% of Total Gross Energy Consumption		
												Trillion Btu	
1950	63.0	1,651	1,248.3	7,053	0.13	135	8,839	5,881	20.1	8,859	26.4	33.62	
1955	17.2	444	1,690.0	9,452	0.25	259	10,155	4,563	15.6	10,171	26.0	39.18	
1960	3.0	76	1,932.5	10,737	0.35	362	11,175	4,770	16.3	11,191	25.4	44.08	
1965	0.7	18	2,270.3	12,559	0.50	516	13,093	4,652	15.9	13,109	24.7	52.99	
1966	0.6	15	2,383.5	13,040	0.54	558	13,613	4,514	15.4	13,628	24.5	55.72	
1967	0.5	12	2,496.6	13,769	0.58	599	14,380	4,572	15.6	14,396	24.9	57.88	
1968	0.4	10	2,704.7	14,887	0.59	608	15,505	4,540	15.5	15,521	25.3	61.32	
1969	0.3	7	2,817.8	15,475	0.63	650	16,132	4,531	15.5	16,148	25.0	64.51	
1970	0.3	7	2,901.8	15,969	0.72	742	16,718	4,633	15.8	16,734	25.0	66.82	
1971	0.3	7	3,011.3	16,574	0.74	763	17,344	4,537	15.5	17,360	25.4	68.30	
1972	0.2	5	3,187.9	17,533	0.77	791	18,329	4,440	15.1	18,344	25.6	71.63	
1973	0.1	2	3,379.9	18,640	0.73	745	19,387	4,186	14.3	19,401	26.0	74.61	
1974	0.1	2	3,296.0	17,920	0.67	686	18,608	4,258	14.5	18,623	25.7	72.35	
1975	*	**	3,336.1	18,329	0.58	592	18,921	4,273	14.6	18,936	26.8	70.71	
1976	*	**	3,499.0	19,070	0.55	561	19,631	4,338	14.8	19,646	26.5	74.16	
1977	*	**	3,620.8	20,009	0.53	541	20,550	4,212	14.4	20,564	26.9	76.56	
1978	*p	**	3,682.9 ^e	20,352	0.52 ^e	531	20,883	4,336	14.8	20,898	26.8	78.01 ^p	

Note: Sum of components may not equal total due to independent rounding.

p = preliminary

e = estimated

*Less than 0.05 million short tons.

**Less than 1 trillion Btu's.

¹ Bituminous Coal and Lignite only.

² Pipeline Gas.

³ Includes only energy used by Railroads and Railways.

⁴ Btu's derived by multiplying by conversion factors on pages 176, 177, 178, 179 of DOE, *Annual Report to Congress, 1978, Volume Two*.

Source: U.S. Department of Energy, *Annual Report to Congress, 1978, Volume Two*.

Coal: Table 37; Petroleum: Table 22; Natural Gas: Table 32; Total Gross Energy Consumption: Table 4.

Edison Electric Institute, *Statistical Year Book, 1978, 1971 and Historical Statistics through the Year 1970*.

Sales of Electricity: Section IV, Table 19s.

Table 20. Fuel Consumption by Mode of Transportation, 1967-1977

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Class I Railroads											
Locomotives											
Diesel Oil, gals × 10 ⁶	3,883	3,917	3,919	3,800	3,819	3,999	4,141	4,112	3,732	3,890	3,982
Fuel Oil, gals × 10 ⁶	47	42	33	—	—	—	—	—	—	—	—
Electricity, KWH × 10 ⁶	832	750	610	578	534	435 ^r	346	467	422	353	417
Coal, tons	2,310	1,669	1,137	1,238	1,191	1,400	1,202	1,160	1,160	1,421	1,569
Motor Cars											
Diesel Oil, gals × 10 ⁶	6	5	5	8	4	3	3	4	4	5	3
Electricity, KWH × 10 ⁶	580	567	538	763	756	715	901	847	857	790	986
Gasoline, gals *	—	—	—	—	—	—	—	—	—	—	—
Air											
Certified Carriers											
Aviation Gasoline, gals × 10 ⁶	268	128	33	15	12	13	n/a	n/a	n/a	n/a	n/a
Jet Fuel, gals × 10 ⁶	7,522	8,891	10,113	10,085	10,140	10,302	10,700 ^r	9,554 [†]	9,507 [†]	9,832 [†]	10,577 [†]
General Aviation³											
Aviation Gasoline, gals × 10 ⁶	396	495	522	551	508	584	411	443	412	432	456
Jet Fuel, gals × 10 ⁶	99 ^r	115	168	208	226	245	304	357	453	495	536
Highway											
Gasoline, gals × 10 ⁶											
Pass. Cars + Taxis	55,007	58,413	62,325	65,649	69,213	73,121	77,619	73,770	76,010	78,398 ^r	80,225
Motorcycles	103	111	123	135	301	342	392	447	447	448 ^r	451
Diesel + Gasoline, gals × 10 ⁶											
Commercial Buses ²	646	655	657	644	631	561	520	525	553	574	583
School Buses	264	277	290	300	316	320	327	333	342	390	401
Single-unit Trucks ¹	14,470	15,674	16,528	17,237	18,221	22,118	22,755	21,125	21,868	24,914 ^r	26,255
Combination Trucks	7,203	7,808	8,199	8,363	8,865	8,600	8,860	10,101	9,764	10,975 ^r	11,709
Water Transport											
Residual Fuel Oil, gals × 10 ⁶	3,389	3,678	3,506	3,774	3,307	3,273	3,881	3,824	4,060	4,933 ^r	5,417
Distillate Fuel Oil, gals × 10 ⁶	734	766	793	819	880	929	1,125	1,040	1,098	1,190 ^r	1,408
Gasoline, gals × 10 ⁶	501	533	569	598	645	687	717	697	730	764	774
Transit											
Electricity, KWH × 10 ⁶											
Rapid Transit	2,194	2,250	2,291	2,261	2,262	2,149	2,098	n/a	n/a	n/a	n/a
Surface Rail	180	179	173	157	153	146	140	n/a	n/a	n/a	n/a
Trolley	157	157	154	143	141	133	93	n/a	n/a	n/a	n/a
Total	2,531	2,586	2,618	2,561	2,556	2,428	2,331	2,630	2,646	2,576	2,303 ^p
Gallons of Motor Fuel, gals × 10 ⁶											
Gasoline	58	46	40	37	29	20	12	7	5	5	8 ^p
Diesel Oil	270	274	274	271	257	253	283	316	365	389	403 ^p
Propane	33	32	32	31	27	24	15	3	3	1	1 ^p
Pipelines											
Natural Gas, cu. ft. × 10 ⁶	575,752	590,965	630,962	722,166	742,592	766,156	728,177	668,834	582,963	548,323	532,669
Private and Commercial Non-Highway Use of Gasoline, gals × 10⁶	3,779	3,792	3,670	3,593	3,492	3,381	3,434	3,163	3,161	3,280	3,223

r = revised

p = preliminary

n/a = not available

¹ Includes non-freight truck movements.

² Includes intercity and urban buses.

³ Data for 1965-1972 calculated by method different from that used for 1973-1977 data.

† Includes Aviation Gasoline.

Source: See Appendix A, p. 169.

Table 22. Fuel Consumption and Travel by Personal Passenger Vehicles², 1967-1977

Year	Number ¹ Registered (thousands)	Total ¹ Vehicle Miles Traveled (millions)	Average Miles Traveled			Average Miles Traveled per Gallon			Total Fuel Consumed (millions of gallons)			Average Gallons Consumed per Vehicle		
			Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles
1967	82,367	774,203	9,531	3,962	9,399	13.93	75	14.05	55,007	103	55,110	684	53	669
1968	85,793	814,030	9,627	3,970	9,488	13.79	75	13.91	58,413	111	58,524	698	53	682
1969	89,156	858,858	9,782	4,020	9,633	13.63	75	13.75	62,325	123	62,448	718	54	700
1970	92,095	900,992	9,978	3,605	9,783	13.57	75	13.70	65,649	135	65,784	735	48	714
1971	96,144	954,155	10,121	4,500 ³	9,926	13.57	50 ³	13.73	69,213	301	69,514	746	90 ³	723
1972	100,658	1,003,498	10,184	4,500	9,969	13.49	50	13.67	73,121	342	73,463	755	90	730
1973	106,119	1,036,455	9,992	4,498	9,767	13.10	50	13.29	77,619	392	78,011	763	90	736
1974	109,823	1,013,068	9,448	4,500	9,225	13.43	50	13.65	73,770	447	74,217	704	90	676
1975	111,679	1,050,472	9,634	4,500	9,406	13.53	50	13.74	76,010	447	76,457	712	90	685
1976	115,170 ^r	1,098,179	9,763 ^r	4,500	9,535 ^r	13.72	50	13.93	78,398 ^r	448 ^r	78,847 ^r	711 ^r	90	685 ^r
1977	118,711	1,141,215	9,839	4,500	9,613	13.94	50	14.15	80,225	451	80,677	706	90	680

r = revised

¹ Includes motorcycles.

² For the 50 states and District of Columbia.

³ Significant differences in values for 1971 and the corresponding values for 1970 represents a change in the basic assumptions of miles per vehicle and miles per gallon, not a shift in the trend.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

Table 24. Fuel Consumption and Travel by Motor Trucks, 1967-1977

Year	Number Registered (thousands)	Total Vehicle Miles Traveled (millions)	Average Miles Traveled		Average Miles Traveled per Gallon		Total Fuel Consumed (millions of gallons)		Average Gallons of Fuel Consumed per Vehicle					
			Single-unit Trucks	Combinations Trucks	Single-unit Trucks	Combinations Trucks	Single-unit Trucks	Combinations Trucks	Single-unit Trucks	Combinations Trucks				
1967	16,193	182,456	9,598	42,176	11,268	10.19	4.86	8.42	14,470	7,203	21,673	942	8,678	1,338
1968	16,995	196,651	9,857	43,229	11,571	10.14	4.83	8.37	15,674	7,808	23,482	972	8,964	1,382
1969	17,871	206,680	9,871	42,453	11,565	10.12	4.81	8.36	16,528	8,199	24,727	976	8,826	1,384
1970	18,748	214,670	9,807	41,903	11,450	10.12	4.81	8.39	17,237	8,363	25,600	969	8,711	1,365
1971	19,802	227,037	9,794	43,779	11,465	10.12	4.81	8.38	18,221	8,865	27,086	968	9,102	1,368
1972	21,239	259,735	10,525	47,084	12,229	9.63	5.42	8.46	22,118	8,600	30,718	1,092	8,687	1,446
1973	23,233	267,147	9,868	46,716	11,538	9.63	5.42	8.45	22,755	8,860	31,615	1,025	8,620	1,361
1974	24,630	267,519	8,981	51,667	10,861	10.01	5.55	8.57	21,125	10,101	31,226	897	9,310	1,269
1975	25,776	274,454	8,882	49,125	10,648	10.01	5.69	8.68	21,868	9,764	31,632	887	8,633	1,227
1976	27,779 ^r	307,950 ^r	9,369 ^r	48,297 ^r	11,086	9.99 ^r	5.39	8.58 ^r	24,914 ^r	10,975 ^r	35,890 ^r	938 ^r	8,961 ^r	1,292 ^r
1977	29,562	329,465	9,400	50,206	11,145	10.13	5.42	8.68	26,255	11,709	37,964	928	9,263	1,284

^r = revised

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

**Table 26. Motor Fuel and Energy Consumption by the U.S. Transit Industry
(at 5-Year Intervals 1950-1965 and Annually 1966-1977)**

Year	Kilowatt Hours Consumed (In Millions)				Gallons of Motor Fuel Used (In Thousands)		
	Heavy Rail	Light Rail	Trolley Coach	Total	Gasoline	Diesel Oil	Propane
1950	2,000	2,410	841	5,251	430,000	98,600	*
1955	1,900	910	720	3,530	246,000	172,600	30,300
1960	2,098	393	417	2,908	153,600	208,100	38,300
1965	2,185	218	181	2,584	91,500	248,400	32,700
1966	2,075	226	166	2,467	76,000	256,000	33,600
1967	2,194	180	157	2,531	57,800	270,300	33,000
1968	2,250	179	157	2,586	45,700	274,200	32,200
1969	2,291	173	154	2,618	40,000	273,800	31,600
1970	2,261	157	143	2,561	37,200	270,600	31,000
1971	2,262	153	141	2,556	29,400	256,800	26,500
1972	2,149	146	133	2,428	19,647	253,250	24,400
1973	2,098	140	93	2,331	12,333	282,620	15,152
1974	n/a	n/a	n/a	2,630	7,457	316,360	3,142
1975	n/a	n/a	n/a	2,646	5,017	365,060	2,559
1976	n/a	n/a	n/a	2,576	5,203	389,187	960
1977 ^P	n/a	n/a	n/a	2,303	8,077	402,842	1,086

p = preliminary

n/a = not available

*Propane included with gasoline.

Source: American Public Transit Association, *Transit Fact Book*, 1977-1978, Table 17.

**Table 28. Domestic Demand for Refined Petroleum Products by End-Use Sector
(Trillion Btu's per Day)¹
(At 5-Year Intervals 1950-1965 and Annually 1966-1978)**

Year	Residential and Commercial	Industrial	Transportation	Transportation as % of Total	Electric Utilities ²	Total
1950	8.14	7.35	19.02	53.0	1.61	35.92
1955	10.63	9.51	25.90	54.7	1.23	47.32
1960	12.95	10.78	29.34	53.9	1.39	54.45
1965	14.83	12.67	34.41	54.0	1.83	63.67
1966	14.99	13.24	35.73	54.1	2.19	66.09
1967	16.32	12.79	37.72	54.5	2.43	69.27
1968	16.07	14.15	40.67	55.2	2.81	73.70
1969	16.53	14.83	42.40	54.6	3.90	77.66
1970	17.00	15.02	43.75	54.1	5.06	80.89
1971	17.01	15.19	45.41	54.2	6.16	83.72
1972	17.55	17.00	47.91	53.2	7.59	90.04
1973	17.65	17.87	51.07	53.5	8.88	95.46
1974	15.88	17.24	49.10	54.2	8.32	90.53
1975	15.16	16.54	50.22	56.0	7.80	89.66
1976	16.30	18.53	52.10	54.7	8.23	95.16
1977	16.41	20.83	54.82	53.8	9.78	101.84
1978	16.69 ³	21.16 ³	55.76 ³	53.9	9.95 ³	103.50 ⁴

Note: Sum of components may not equal total due to independent rounding.

¹Data derived by multiplying figures on source page by conversion factors in Consumption of Petroleum Products column on page 177 in D.O.E.'s *Annual Report to Congress, 1978, Volume Two*.

²These data are deliveries to electric utilities and do not equate to consumption by electric utilities.

³Estimated

⁴Estimated, based on data through September.

Source: U.S. Department of Energy, *Annual Report to Congress, 1978, Volume Two*, Table 22.

Table 30. U.S. Sales of Distillate Fuel Oil by Use
(Thousand Barrels)
(at 5-Year Intervals 1950-1965 and Annually 1966-1977)

Year	Heating Oils	Industrial Use	Oil Company Fuel	Electric Utility	Railroads	Vessel Bunkering	Military Use	Diesel Type			All Other	Total
								On Highway	Off Highway	Total		
1950	235,740	37,121	5,692	13,207	48,703	12,872	6,553	1	1	21,333	14,085	395,306
1955	356,589	43,606	8,597	5,884	84,668	16,675	10,945	23,446	20,769	44,215	9,948	581,127
1960 ²	438,010	34,271	8,347	4,742	86,490	18,730	10,793	36,467	38,095	74,562	7,380	683,325
1965	475,992	42,484	10,430	3,661	86,436	15,532	14,953	73,776	50,346	124,122	13,281	786,891
1966	472,778	47,108	10,485	3,612	89,104	16,642	16,303	81,516	54,260	135,776	17,905	809,713
1967	501,026	44,997	8,997	2,858	88,688	17,478	17,325	1	1	1	147,831	829,200
1968	510,682	45,795	9,975	8,509 ³	84,030	18,235	12,593	124,082	47,691	171,773	11,508	873,100
1969	511,768	42,456	13,867	12,158	86,429	18,877	13,958	138,814	49,439	188,253	12,534	900,300
1970	521,135	43,668	11,518	24,770	88,416	19,503	12,447	148,796	46,123	194,919	10,874	927,250
1971	522,475	50,731	14,088	35,329	86,251	20,959	17,427	166,981	46,925	213,906	10,154	971,320
1972	543,337	60,388	13,405	68,334	97,001	22,125	20,187	189,055	50,186	239,241	10,852	1,074,870
1973	536,856	67,306	14,902	77,950	102,828	26,786	19,598	221,420	55,541	276,961	11,876	1,135,063
1974	493,223	64,036	13,805	84,661	102,949	24,757	17,748	221,033	48,743	269,776	10,131	1,081,086
1975	488,388	63,993	13,633	63,420	93,191	26,138	18,004	217,906	48,977	266,883	10,096	1,043,746
1976 ¹	540,895	79,956	14,523	60,570	97,467	28,330	17,574	242,820	54,429	297,249	11,365	1,150,929
1977 ^p	537,530	104,244	19,954	76,881	99,306	33,512	18,137	264,412	62,823	327,235	14,394	1,230,993

p = preliminary

r = revised

¹Data not available.

²Included Alaska and Hawaii.

³Includes gas turbine plants in 1968 and subsequent years.

Source: 1950-1972: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 13, 13a.
1973-1977: U.S. Department of Energy, *Energy Data Reports*, Fuel Sales, Annual, November 1978, Table 2.

Table 32. Price Trend of Gasoline vs. Other Consumer Goods and Services
(at 5-Year Intervals 1950-1965 and Annually 1966-1978)

Year	Retail Price of Regular Grade Gasoline (Cents Per Gallon)				Price Indexes of Regular and Premium Gasoline and Other Consumer Items (Index: 1967 = 100)						
	Service Station Price Excl. Taxes	State and Federal Taxes	Service Station Price Incl. Taxes	All Items	Food	Rent	Apparel and Upkeep	Regular and Premium Gasoline	Entertainment*		
1950	20.08	6.68	26.76	72.1	74.5	70.4	79.0	71.8	n/a		
1955	21.42	7.65	29.07	80.2	81.6	84.3	84.1	83.6	n/a		
1960	20.99	10.14	31.13	88.7	88.0	91.7	89.6	92.5	n/a		
1965	20.70	10.45	31.15	94.5	94.4	96.9	93.7	94.9	n/a		
1966	21.57	10.51	32.08	97.2	99.1	98.2	96.1	97.0	n/a		
1967	22.55	10.61	33.16	100.0	100.0	100.0	100.0	100.0	100.0		
1968	22.93	10.78	33.71	104.2	103.6	102.4	105.4	101.4	105.7		
1969	23.85	10.99	34.84	109.8	108.9	105.7	111.5	104.7	111.0		
1970	24.55	11.14	35.69	116.3	114.9	110.1	116.1	105.6	116.7		
1971	25.20	11.23	36.43	121.3	118.4	115.2	119.8	106.3	122.9		
1972	24.46	11.67	36.13	125.3	123.5	119.2	122.3	107.6	126.5		
1973	26.88	11.94	38.82	133.1	141.4	124.3	126.8	118.1	130.0		
1974	40.41	12.00	52.41	147.7	161.7	130.6	136.2	159.9	139.8		
1975	45.44	11.77	57.22	161.2	175.4	137.3	142.3	170.8	152.2		
1976	47.44	12.03	59.47	170.5	180.8	144.7	147.6	177.9	159.8		
1977	50.70	12.37	63.07	181.5	192.2	153.5	154.2	188.2	167.7		
1978 ^P	53.09	12.62	65.71	195.3	211.4	164.0	159.6	196.3	176.6		

P = preliminary

n/a = not available

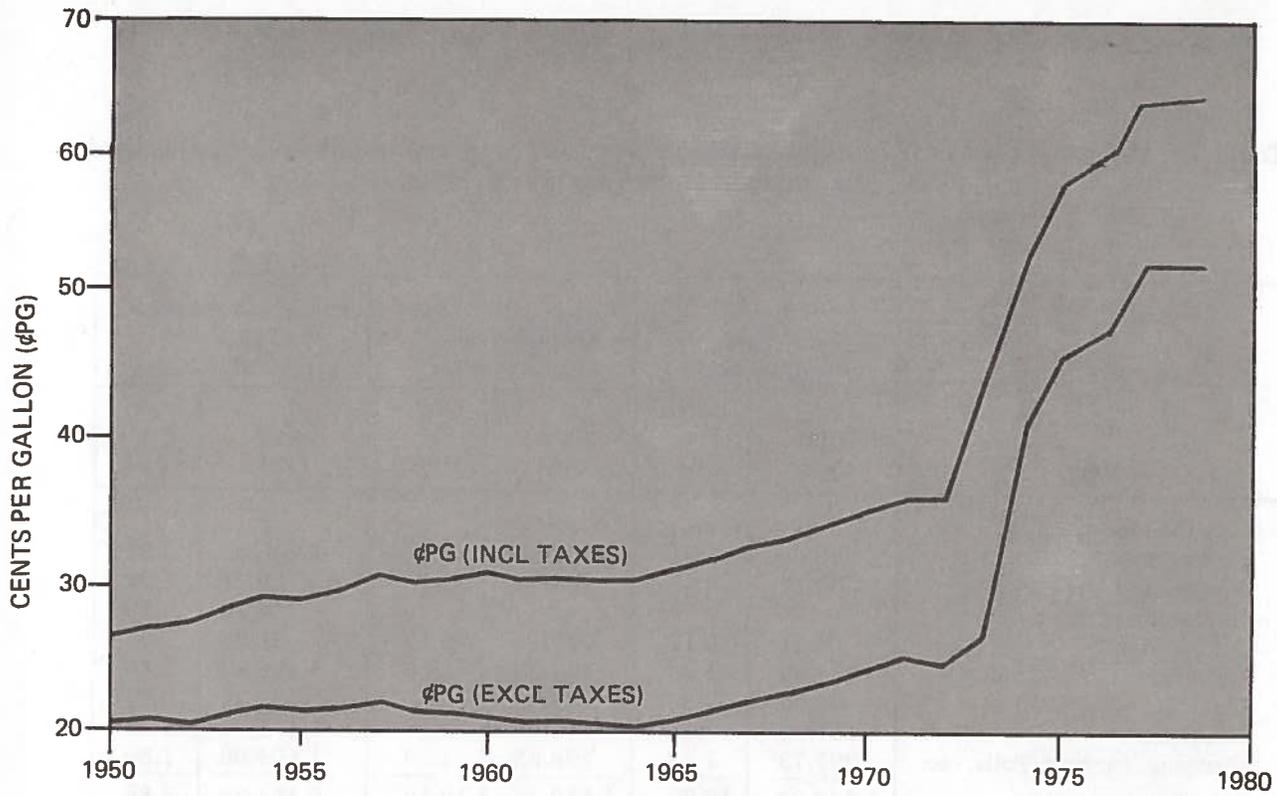
*Includes reading materials, sporting goods, toys and hobbies, and entertainment services.

Source: Retail Price of Regular Grade Gasoline: 1950-1977: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4.

1978: Platt's *Oilgram Price Report*, 1978.

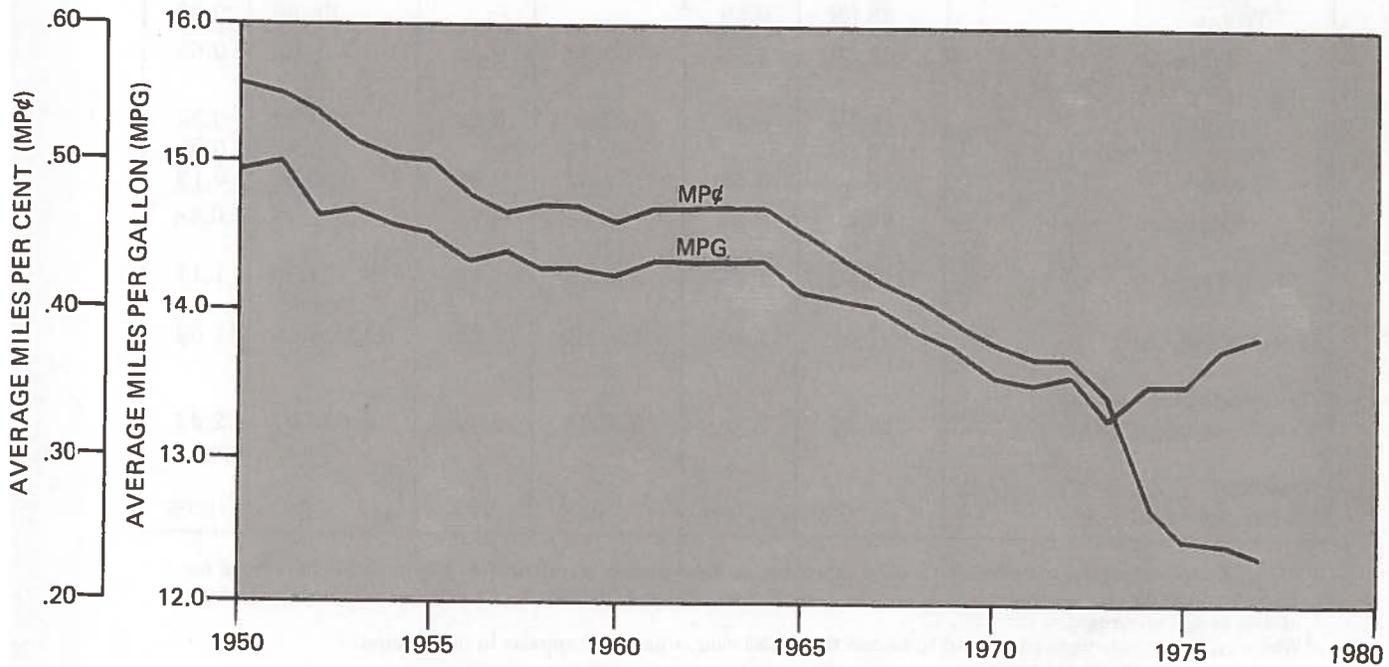
Price Indexes: 1950-1966: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4.

1967-1978: U.S. Department of Labor, Bureau of Labor Statistics, *Handbook of Labor Statistics, 1978*, Table 110, Table 114.



Source: 1950-1977: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4, 4a.
 1978: Platt's, *Oilgram Price Report*, 1978.

Figure 25. Price Trend of Regular Grade Gasoline Prices, 1950-1978



Source: MPG: Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.
 MP¢: U.S. Department of Transportation, Transportation Systems Center computation.

Figure 26. Average Fuel Efficiency of U.S. Passenger Cars, 1950-1977
 (Average Miles per Gallon and Average Miles per Cent Cost of Gasoline)

Table 35. Estimated Cost of Operating a Standard Size 1974 Model Automobile, Including Fuel¹
(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	1,046.00	7.21	647.00	4.98	4,201.00	4.20
Repairs and Maintenance	122.96	0.85	158.01	1.21	2,933.94	2.94
Replacement Tires	18.63	0.13	16.71	0.13	385.99	0.38
Accessories	3.53	0.02	3.39	0.03	57.40	0.06
Gasoline	438.70	3.03	393.35	3.02	3,025.96	3.03
Oil	20.00	0.14	19.00	0.15	195.00	0.19
Insurance ²	205.00	1.41	192.00	1.48	1,618.00	1.62
Garaging, Parking, Tolls, etc.	224.80	1.55	215.20	1.65	1,960.00	1.96
Total	2,079.62	14.34	1,644.66	12.65	14,383.29	14.38
Taxes and Fees:						
State:						
Gasoline	100.98	0.70	90.54	0.70	696.51	0.70
Registration	30.00	0.21	30.00	0.23	300.00	0.30
Tilting	170.04	1.17	—	—	170.04	0.17
Subtotal	301.02	2.08	120.54	0.93	1,166.55	1.17
Federal:						
Gasoline	44.88	0.31	40.24	0.31	309.56	0.31
Oil ³	0.30	—	0.29	—	2.93	—
Tires	1.45	0.01	1.30	0.01	30.03	0.03
Subtotal	46.63	0.32	41.83	0.32	342.52	0.34
Total Taxes	347.65	2.40	162.37	1.25	1,509.07	1.51
Total of All Costs	2,427.27	16.74	1,807.03	13.90	15,892.36	15.89
Total Gasoline and Oil Costs, Including Taxes	604.86	4.18	543.42	4.18	4,229.96	4.23
Gasoline and Oil Costs as Percent of All Costs	25%	25%	30%	30%	27%	27%

¹ This estimate covers the total costs of a fully equipped, medium priced, standard size, 4-door sedan, less the average dealer discount allowed on that car, purchased for \$4,251, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used.

² Previous editions of this study used insurance rates designated for Baltimore city. The rates shown above are for the Baltimore suburbs, and consequently are less than the rates presented in the previous study. If the Baltimore city rates had been used in this study, the insurance costs would have been higher. (For example, the first year would have been \$232).

³ Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column. See Appendix A for basis of estimates.

Table 37. Estimated Cost of Operating a Subcompact Size 1974 Model Automobile, Including Fuel¹
(Total costs in dollars, costs per mile in cents)

Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	283.00	1.95	265.00	2.04	2,360.00	2.36
Repairs and Maintenance	97.69	0.67	150.55	1.16	2,119.61	2.12
Replacement Tires	13.64	0.09	12.23	0.09	302.72	0.30
Accessories	3.53	0.03	3.39	0.03	57.40	0.06
Gasoline	264.32	1.82	236.95	1.82	1,824.41	1.82
Oil	14.00	0.10	13.00	0.10	138.00	0.14
Insurance	177.00	1.22	169.00	1.30	1,466.00	1.47
Garaging, Parking, Tolls, etc.	224.80	1.55	215.20	1.65	1,960.00	1.96
Total	1,077.98	7.43	1,065.32	8.19	10,228.14	10.23
Taxes and Fees:						
State:						
Gasoline	60.84	0.42	54.54	0.42	419.14	0.42
Registration	20.00	0.14	20.00	0.15	200.00	0.20
Titling	96.40	0.66	—	—	96.40	0.09
Subtotal	177.24	1.22	74.54	0.57	716.34	0.71
Federal:						
Gasoline	27.04	0.19	24.24	0.19	186.64	0.19
Oil ²	0.21	—	0.20	—	2.07	—
Tires	0.90	0.01	0.80	0.01	19.91	0.02
Subtotal	28.15	0.20	25.24	0.20	208.62	0.21
Total Taxes	205.39	1.42	99.78	0.77	924.96	0.92
Total of All Costs	1,283.37	8.85	1,165.10	8.96	11,153.10	11.15
Total Gasoline and Oil Costs, Including Taxes	366.41	2.53	328.93	2.53	2,570.26	2.57
Gasoline and Oil Costs as Percent of All Costs	29%	29%	28%	28%	23%	23%

¹This estimate covers the total costs of a low priced, subcompact size, 2-door sedan, less the average dealer discount allowed on that car, purchased for \$2,410, operated 100,000 miles over a 10-year period, then scrapped. Baltimore area prices, considered to be in the middle range, were used. Since cost data for American made subcompacts do not exist past the second year, only the first, second, and estimated ten-year totals are shown.

²Where costs per mile were computed to be less than 1/20 cent, a dash (—) appears in the column.

See Appendix A for basis of estimates.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile*, April 1974.

Table 39. Estimated Cost of Operating a Compact Size 1976 Model Automobile, Including Fuel¹
(Total costs in dollars, costs per mile in cents)

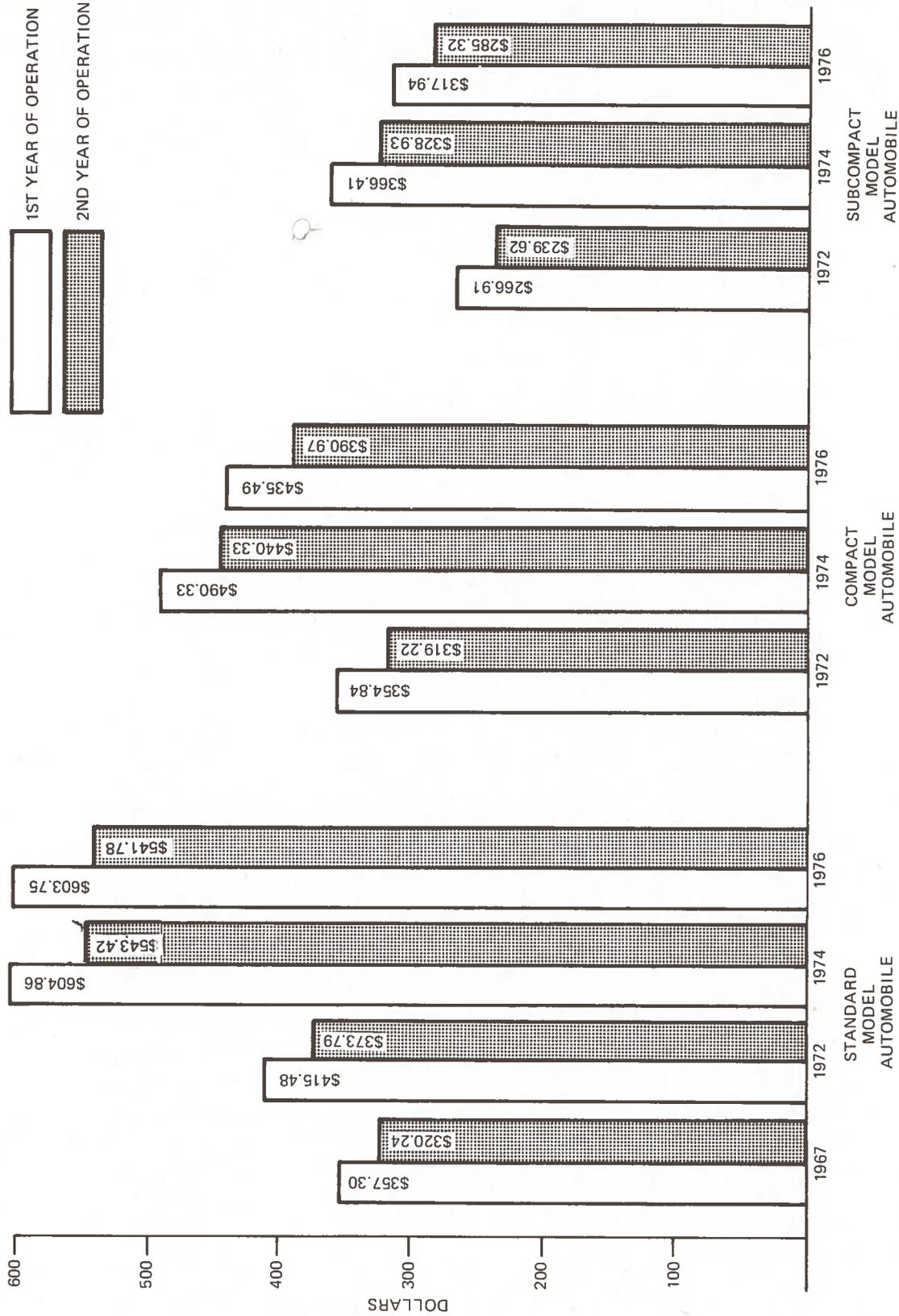
Item	First Year (14,500 miles)		Second Year (13,000 miles)		Totals and Averages for Ten Years (100,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Costs Excluding Taxes:						
Depreciation	536.00	3.70	498.00	3.83	3,830.00	3.83
Repairs and Maintenance	139.33	0.96	234.68	1.81	2,961.00	2.96
Replacement Tires	20.23	0.14	18.14	0.14	387.20	0.39
Accessories	7.59	0.05	7.07	0.05	86.00	0.09
Gasoline	330.74	2.28	296.52	2.28	2,280.94	2.28
Oil	14.84	0.10	13.78	0.10	169.60	0.17
Insurance	199.00	1.38	187.00	1.44	1,594.00	1.59
Garaging, Parking, Tolls, etc.	240.98	1.66	230.94	1.78	2,108.80	2.11
Total	1,488.71	10.27	1,486.13	11.43	13,417.54	13.42
Taxes and Fees:						
State:						
Gasoline	62.10	0.43	55.71	0.43	428.40	0.43
Registration	20.00	0.14	20.00	0.15	200.00	0.20
Titling	154.60	1.06	—	—	154.60	0.16
Sales	7.28	0.05	10.95	0.09	144.15	0.14
Subtotal	243.98	1.68	86.66	0.67	927.15	0.93
Federal:						
Gasoline	27.60	0.19	24.76	0.19	190.40	0.19
Oil ²	0.21	—	0.20	—	2.40	—
Tires	1.25	0.01	1.12	0.01	23.97	0.02
Subtotal	29.06	0.20	26.08	0.20	216.77	0.21
Total Taxes	273.04	1.88	112.74	0.87	1,143.92	1.14
Total of All Costs	1,761.75	12.15	1,598.87	12.30	14,561.46	14.56
Total Gasoline and Oil Costs, Including Taxes	435.49	3.01	390.97	3.01	3,071.74	3.07
Gasoline and Oil Costs as Percent of All Costs	25%	25%	24%	24%	21%	21%

¹ This estimate covers the total costs of a medium priced, compact size, 2-door sedan, purchased for \$3,865, operated 100,000 miles over a 10-year period, then scrapped for \$35. Baltimore area prices, considered to be in the middle range, were used.

² Where costs per mile are less than 1/20 cent, a dash (—) appears in the column.

See Appendix A for basis of estimate.

Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Operating an Automobile, 1976*.



NOTE: First year of operation based on 14,500 miles.
 Second year of operation based on 13,000 miles.
 See Appendix A for basis of these estimates.

Figure 27. Estimated Annual Automobile Gasoline and Oil Costs, Including Taxes, by Size and Year of Operation

Part 2. Energy Intensiveness

Table 42. Energy Intensiveness of Certificated All-Cargo Carriers (All Services), 1967-1978*

Year	Overall Revenue Ton-Miles (millions)			Fuel Consumed** (million gal.)		Btu/Overall Revenue Ton-Mile			
	Domestic Operations	International Operations	Total Operations	Domestic Operations	International Operations	Total Operations	Domestic Operations	International Operations	Total Operations
1967	520	588	1,108	106	135	241	27,519	30,995	29,364
1968	496	674	1,170	109	156	265	29,667	31,246	30,577
1969	475	1,093	1,568	97	225	322	27,568	27,790	27,723
1970	302	1,123	1,425	60	229	289	26,821	27,529	27,739
1971	311	1,264	1,575	59	240	299	25,611	27,633	25,629
1972	379	1,333	1,712	68	249	317	24,222	25,218	24,997
1973	534	1,139	1,673	91	202	293	23,006	23,942	23,643
1974	533	1,112	1,645	85	180	265	21,529	21,852	21,748
1975	464	1,149	1,613	74	192	266	21,530	22,559	22,263
1976	463	1,183	1,646	75	186	261	21,868	21,226	21,406
1977	519	1,273	1,792	103	168	271	26,792	17,816	20,416
1978	870	1,316	2,186	164	171	335	25,448	17,542	20,688

*Note: Btu/ton-mile data excludes passenger/cargo (belly freight) operations, which, if considered, would make overall air freight operations even more efficient.

**Includes aviation gasoline and jet fuel.

Note: Heat equivalent factor used in Btu conversion is 135,000 Btu/gal.

Source: Overall Revenue Ton-Miles:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 116 and p. 119.

1973-1974: CAB, *Air Carrier Traffic Statistics*, December 1974, 1975, p. 12 and p. 15.

1975-1978: *Ibid.*, December 1976, 1977, 1978, p. 13 and p. 16.

Fuel Consumed:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 65, Table 57.

1973-1976: CAB, *Handbook of Airline Statistics Supplement*, 1975, 1977, p. 5, Table 2.

1977-1978: CAB, *Fuel Cost and Consumption, 12 months ended Dec. '77 and '78*, Table 4 and Table 6.

Table 44. Energy Intensiveness of Automobiles and Motorcycles, 1967-1977

Year	Auto Pass.-Miles (millions)	Motorcycle Pass.-Miles (millions)	Fuel Consumed (million gal.)		Autos (Btu/pass.-miles)	Motorcycle (Btu/pass.-miles)
			Autos	Motorcycles		
1967	1,686,225	8,511	55,007	103	4,078	1,513
1968	1,772,525	9,171	58,413	111	4,119	1,513
1969	1,869,193	10,148	62,325	123	4,168	1,515
1970	1,959,857	11,163	65,649	135	4,187	1,512
1971	2,066,024	16,558	69,213	301	4,188	2,272
1972	2,170,095	18,800	73,121	342	4,212	2,274
1973	2,237,094	21,553	77,619	392	4,337	2,274
1974	2,179,586	24,582	73,770	447	4,231	2,273
1975	2,261,866	24,586	76,010	447	4,201	2,273
1976	2,366,676	24,659	78,398	448	4,141	2,271
1977	2,461,028	24,823	80,226	451	4,075	2,271

Note: Passenger-Mile data is based on vehicle-miles obtained from the FHWA and an average occupancy rate of 2.2 for automobiles and 1.1 for motorcycles.

The heat equivalent factor used for Btu conversion is 125,000 Btu/gal.

Source: Passenger-Miles and Fuel Consumed:

1967-1977: FHWA, *Highway Statistics*, 1977, Table VM-1 and same table in earlier editions.

Table 46. Energy Intensiveness of Local Transit and School Buses, 1967-1977

Year	Vehicle-Miles (millions)					Fuel Consumed				Btu/Vehicle-Mile		
	Trolley Coach	Heavy Rail	Light Rail	Combined Rail & Trolley	Transit Bus	School Bus	Combined Rail & Trolley (kWh)(10 ⁶)	Transit Bus (Diesel) (million gal.)	School Bus (Gasoline) (million gal.)	Combined Rail & Trolley†	Transit Bus	School Bus
1967	36.5	396.5	37.8	470.8	1,526	1,870	2,531	270	264	18,343	24,540	17,647
1968	36.2	406.8	37.5	480.5	1,508	1,937	2,586	274	277	18,363	25,201	17,876
1969	35.8	416.6	36.0	488.4	1,478	2,030	2,618	274	290	18,290	25,713	17,857
1970	33.0	407.1	33.7	473.8	1,409	2,100	2,561	271	300	18,443	26,677	17,857
1971	30.8	407.4	32.7	470.9	1,376	2,212	2,556	257	316	18,520	25,905	17,857
1972	29.8	386.2	31.6	447.6	1,308	2,359	2,428	253	320	18,508	26,828	16,956
1973	25.7	407.3	31.2	464.2	1,370	2,412	2,331	283	327	17,134	28,651	16,946
1974	17.6	431.9	26.9	476.4	1,431	2,450	2,630	316	333	18,836	30,628	16,990
1975	15.3	423.1	23.8	463.7*	1,526	2,500	2,646	365	342	19,470	33,175	17,100
1976	15.3	407.0	21.1	444.9*	1,581	2,862	2,576	389	390	19,756	34,127	17,034
1977	14.8	361.3	20.4	398.0*	1,623	2,950	2,303	403	401	19,743	34,440	16,991

*Includes Cable Car and Inclined Plane.

†Does not include electric power generation and distribution losses, which, if included, would more than triple the Btu figures shown.

Note: The heat equivalent factors used for Btu conversion are:

1 kWh = 3412 Btu (Combined Rail and Trolley Coach)

Automotive gasoline = 125,000 Btu/gal. (School Bus)

Distillate oil = 138,700 Btu/gal. (Motor Bus)

Source: School Bus: FHWA, *Highway Statistics*, 1977, Table VM-1 and same table in earlier editions.

Local Transit: APTA, *Transit Fact Book*, 1977-78 edition, p. 30 and p. 38.

Table 49. Energy Intensiveness of Amtrak Service, 1972-1977

Year	Revenue Passenger-Miles (10 ⁶)	Fuel Consumed (million gal.)				Total Fuel Consumed (10 ⁹ Btu)*	Btu/Revenue Passenger-Mile*
		Locomotive		Rail Motor Car			
		Diesel	Electric*	Diesel	Electric*		
1972	3,038	n/a	n/a	n/a	n/a	n/a	n/a
1973	3,807	75.6	181.5	0.4	92.9	11,477	3,015
1974	4,259	64.8	182.3	0.7	94.8	10,030	2,355
1975	3,753	63.1	180.3	6.7	94.0	10,617	2,829
1976	4,268	67.1	183.3	9.8	87.6	11,590	2,716
1977	4,203	66.9	187.4	14.9	76.3	12,245	2,914

n/a = not available

*Does not include electric power generation and distribution losses, which, if included, would increase Figures shown by about 20%.

Note: The heat equivalent factors used in Btu conversion are:

Diesel = 138,700 Btu/gal.

Electric = 3,412 Btu = 1 kWh.

Source: Revenue Passenger-Miles:

1972-1977: AAR, *Statistics of Railroads of Class I, 1967-1977*, 62nd edition, p. 16 and same page in earlier editions.

Fuel Consumed:

1972-1977: AAR, Personal communication.

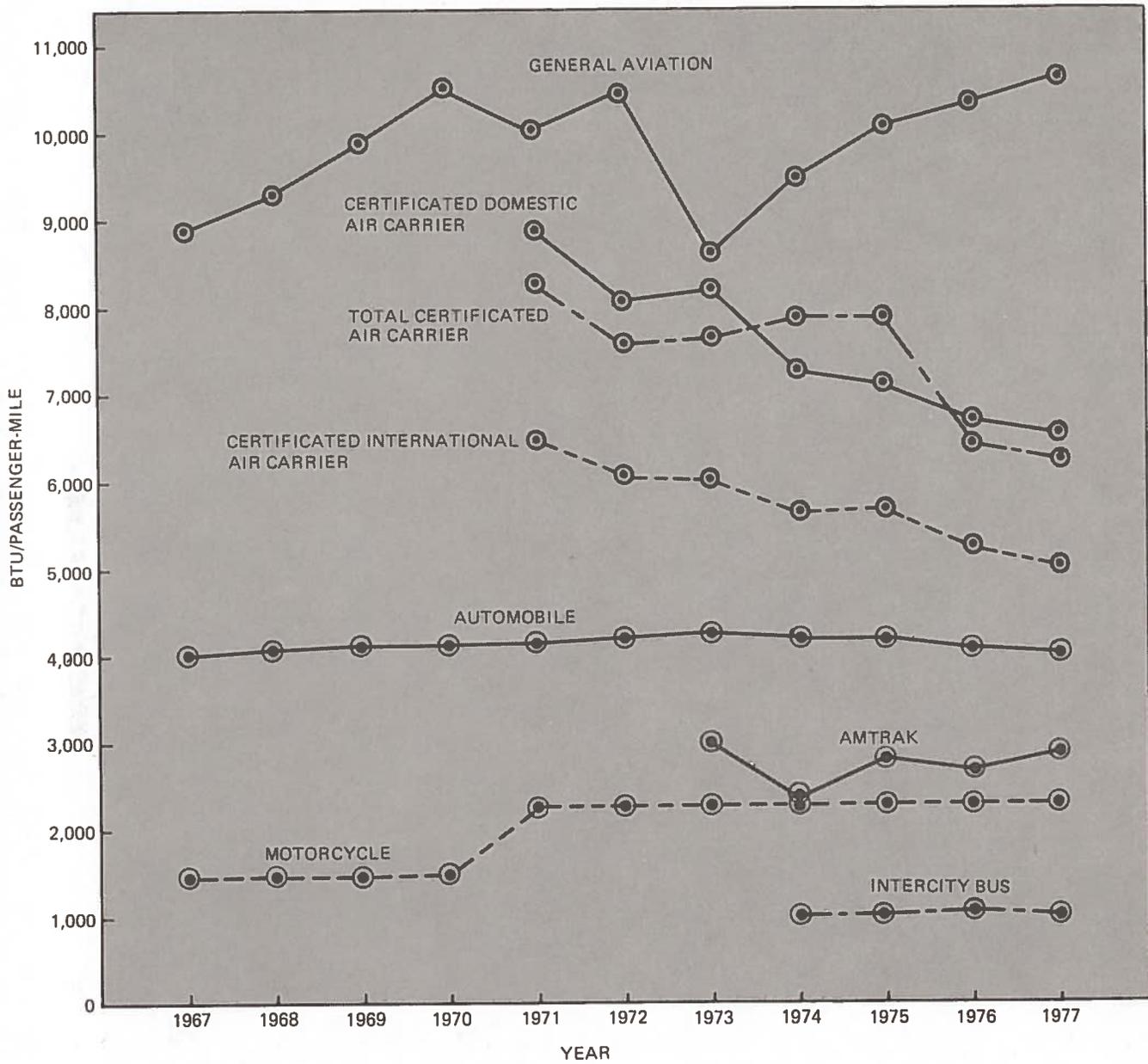


Figure 29. Energy Intensiveness by Passenger Mode, 1967-1977 (Btu/Passenger-Mile)

Part 3. Energy Transport

Table 51. Energy Transported by Foreign and Domestic Waterborne Commerce,
by Type of Traffic and Commodity, Calendar Year 1977
(Net Traffic in Tons of 2,000 Pounds)

Commodity	Total	Foreign		Domestic						Intraterritory
		Imports	Exports	Total	Coastwise	Lakewise	Internal	Local		
Total, all commodities ¹	1,908,223,619	658,136,893	277,119,920	972,083,336	248,083,336	109,079,945	528,704,658	83,444,472	3,654,395	
Coal and lignite	211,955,680	1,721,678	53,937,596	156,296,406	3,662,204	22,248,088	127,628,214	2,757,900	—	
Crude petroleum	488,672,614	403,602,331	253,667	84,816,616	30,732,455	—	48,623,180	5,453,174	7,777	
Gasoline	98,491,184	3,520,240	90,880	94,880,064	54,012,254	1,433,401	32,127,638	7,130,228	176,543	
Jet fuel	12,665,830	—	—	12,665,830	6,752,006	153,152	4,104,103	1,656,569	—	
Kerosene	8,623,628	3,162,600	7,787	5,453,241	3,093,499	28,589	1,471,336	843,456	16,361	
Distillate fuel oil	97,514,247	7,837,759	12,325	89,664,163	45,513,878	1,606,027	26,939,299	15,074,621	530,338	
Residual fuel oil	202,485,125	68,169,847	319,981	133,995,297	51,691,106	1,806,736	49,656,471	28,971,657	1,869,327	
Lubricating oils and greases	7,104,045	202,947	1,109,661	5,791,437	3,065,843	5,220	2,497,357	222,645	372	
Naphtha, mineral spirits, solvents, nec	5,854,671	—	—	5,854,671	2,545,049	2,215	2,668,731	305,112	333,564	
Asphalt, tar and pitch	9,489,028	1,276	31,971	9,455,781	4,323,246	230,580	4,410,716	489,371	1,868	
Coke, petroleum coke	3,538,521	189,710	590,417	2,758,394	9,031	101,165	2,327,657	320,541	—	
Liquified gases, coal gases, natural gas, and natural gas liquids	4,845,790	2,453,856	1,102,131	1,289,803	210,404	517	997,094	81,788	—	
Asphalt building materials	97,138	26,677	49,531	20,980	19,601	148	1,172	—	9	
Petroleum and coal prod., nec	2,953,553	191,540	100,355	2,661,658	379,122	33,274	682,472	1,561,911	4,879	

nec - not elsewhere classified.

¹ Includes the energy commodities listed in the table plus all other commodities.

Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1977, p. 7 and 8.

Table 52. Crude Petroleum and Petroleum Products Transported in the U.S.
by Method of Transportation
(at 5-year intervals 1950-1965 and annually 1966-1977)

Year	Pipelines		Water Carriers		Trucks ¹		Railroads		Total Tons Carried
	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	
1950	283,853,383	38.82	252,765,749	34.57	145,780,986	19.93	48,882,196	6.68	731,282,314
1955	412,533,395	42.94	284,007,134	29.56	222,604,360	23.17	41,663,502	4.33	960,808,391
1960	468,409,682	43.01	318,295,654	29.22	270,375,253	24.83	32,057,140	2.94	1,089,137,729
1965	587,795,480	44.43	323,671,414	24.47	385,480,600	29.14	25,856,600	1.96	1,322,804,094
1966	629,753,680	44.81	332,877,049	23.68	417,001,000	29.67	25,809,500	1.84	1,405,441,229
1967	679,321,600	45.64	349,815,800	23.50	433,600,000	29.13	25,742,200	1.73	1,488,479,600
1968	726,443,900	46.47	361,002,600	23.09	449,700,000	28.76	26,251,200	1.68	1,563,397,700
1969	759,612,000	46.81	378,862,700	23.88	458,000,000	28.22	26,299,900	1.62	1,622,774,600
1970	790,241,700	46.88	402,667,900	23.88	466,100,000	27.65	26,732,200	1.59	1,685,741,800
1971	806,671,000	46.90	416,792,000	24.24	470,700,000	27.37	25,649,900	1.49	1,719,812,900
1972	876,248,100	47.53	426,603,200	23.14	513,500,000	27.86	27,098,200	1.47	1,843,449,500
1973	912,209,900	47.44	421,205,800	21.90	559,767,000	29.11	29,736,200	1.55	1,922,918,900
1974	884,648,000	47.20	407,448,200	21.74	552,036,000	29.46	29,929,900	1.60	1,874,062,100
1975	879,449,300	48.02	403,964,900	22.06	520,605,000	28.42	27,496,600	1.50	1,831,515,800
1976	934,109,100	48.02	425,157,400	21.86	559,241,200	28.75	26,727,100	1.37	1,945,234,800
1977 ^P	986,083,142	47.51	446,549,491	21.52	614,264,217	29.60	28,582,030	1.38	2,075,478,880

P = preliminary

¹ Estimates

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1979, Table 1, and previous issues.

Table 53. Crude Oil Transported in the U.S. by Method of Transportation
(at 5-year intervals 1950-1965 and annually 1966-1977)

Year	Pipelines		Water Carriers		Trucks ¹		Railroads		Total Tons Carried
	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	
1950	231,198,150	72.64	67,551,132	21.22	15,012,459	4.72	4,518,534	1.42	318,280,275
1955	310,042,950	77.73	63,081,850	15.81	22,923,695	5.75	2,828,541	0.71	398,877,036
1960	328,449,000	75.97	74,137,775	17.15	27,843,120	6.44	1,888,387	0.44	432,318,282
1965	367,049,480	74.92	82,082,862	16.76	39,696,600	8.10	1,060,600	0.22	489,889,542
1966	384,542,645	74.15	92,851,238	17.90	40,097,000	7.73	1,120,500	0.22	518,611,383
1967	404,698,400	73.63	103,300,600	18.79	40,500,000	7.37	1,125,900	0.21	549,624,900
1968	425,837,300	74.08	107,010,300	18.62	40,900,000	7.11	1,066,800	0.19	574,814,400
1969	441,200,300	74.41	109,682,900	18.50	41,100,000	6.93	963,600	0.16	592,946,800
1970	457,156,700	74.30	116,300,900	18.90	40,900,000	6.65	916,000	0.15	615,273,800
1971	459,860,200	74.62	114,720,700	18.62	40,800,000	6.62	876,100	0.14	616,257,000
1972	487,606,700	75.75	103,672,800	16.10	51,000,000	7.92	1,459,500	0.23	643,739,000
1973	492,382,300	76.89	90,518,500	14.13	55,590,000	8.68	1,900,900	0.30	640,391,700
1974	464,272,400	74.81	83,580,000	13.47	70,043,000	11.29	2,704,200	0.43	620,599,600
1975	454,690,000	74.34	77,887,000	12.74	76,207,000	12.46	2,832,700	0.46	611,616,700
1976	458,508,800	75.33	75,210,000	12.36	72,625,500	11.93	2,286,500	0.38	608,630,800
1977P	460,132,838	72.26	84,816,616	13.32	89,692,492	14.09	2,132,863	0.33	636,774,809

¹Estimates
p = preliminary

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1979. Table 2, and previous issues.

Table 55. Petroleum Products Transported by Pipeline
1977-1978 (Thousands of Barrels)

Item	December 1978	November 1978	December 1977	January -- December (Incl.)	
				1978	1977
Turned into lines:					
Gasoline, total	202,100	191,602	188,033	2,249,686	2,204,036
Motor	201,753	191,274	187,820	2,245,386	2,199,530
Aviation	347	328	213	4,300	4,506
Jet fuel, total	29,987	30,013	29,435	358,578	347,931
Naphtha-type	3,449	3,320	3,247	40,722	41,190
Kerosine-type	26,538	26,693	26,188	317,856	306,741
Kerosine	3,668	2,914	4,171	29,961	35,888
Distillate fuel oil	82,470	76,762	82,128	849,955	857,023
Residual fuel oil	104	86	187	1,484	2,344
Natural gas liquids	60,777	45,908	55,999	623,397	615,927
Other products	—	—	—	2	5
Delivered from lines:					
Gasoline, total	198,126	191,983	188,713	2,255,774	2,205,041
Motor	197,776	191,626	188,475	2,251,570	2,200,684
Aviation	350	357	238	4,204	4,357
Jet fuel, total	30,087	30,183	29,089	355,691	344,285
Naphtha-type	3,513	3,388	3,261	40,828	41,387
Kerosine-type	26,574	26,795	25,828	314,863	302,898
Kerosine	3,514	2,888	4,361	29,343	34,876
Distillate fuel oil	82,682	73,725	83,768	851,683	853,463
Residual fuel oil	104	86	187	1,484	2,344
Natural gas liquids	62,121	54,393	55,805	618,514	603,847
Other products	—	—	—	2	5
Shortage (or average):					
Gasoline, total	393	(248)	(586)	(4,667)	(5,861)
Motor	372	(264)	(602)	(4,814)	(6,035)
Aviation	21	16	16	147	174
Jet fuel, oil	324	214	255	3,917	3,285
Naphtha-type	8	(41)	2	(62)	(69)
Kerosine-type	316	255	253	3,979	3,354
Kerosine	74	114	83	642	1,053
Distillate fuel oil	234	(209)	(537)	(1,000)	(52)
Natural gas liquids	531	157	503	3,101	5,050
Stocks in lines and working tanks at end of month:					
Gasoline, total	51,381	47,800	52,802	51,222	52,802
Motor	51,361	47,756	52,731	51,201	52,731
Aviation	20	44	71	21	71
Jet fuel, total	7,027	7,451	8,057	7,027	8,057
Naphtha-type	1,104	1,176	1,148	1,104	1,148
Kerosine-type	5,923	6,275	6,909	5,923	6,909
Kerosine	1,648	1,568	1,672	1,684	1,672
Distillate fuel oil	32,496	32,942	33,224	32,496	33,224
Natural gas liquids	41,431	43,306	39,958	41,431	39,649

Source: Department of Energy, *Energy Data Reports*, Petroleum Statement, Monthly, Dec. 1978, Table 11, p. 12.

Table 57. U.S. Gas Utility Industry Miles of Pipeline and Main, by Type¹ (Thousands)
(At 5-Year Intervals 1950-1965 and Annually 1966-1977)

Year	Total	Field and Gathering	Transmission Pipeline ³	Distribution Main
1950	387.5	32.8	118.1	241.6
1955	496.7	45.7	145.9	305.1
1960 ²	630.9	55.8	183.7	391.4
1965	767.5	61.7	211.3	494.5
1966	799.6	63.0	217.0	519.6
1967	828.3	63.7	225.4	539.2
1968	861.6	64.4	234.5	562.7
1969	891.6	64.9	248.1	578.6
1970	913.3	66.3	252.2	594.8
1971	931.4	66.2	254.8	610.4
1972	948.1	66.9	258.1	623.1
1973	962.9	65.9	263.1	633.8
1974	974.1	66.4	262.2	645.6
1975	979.3	68.5	262.6	648.2
1976	987.7	70.3	258.2	659.1
1977	998.9	71.5	260.5	666.9

¹ Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of the end of each year.

² These figures and those for subsequent years include Hawaii and Alaska.

³ Includes 3,600 miles of underground storage pipe in 1971, 3,300 miles in 1972, 3,400 miles in 1973, 4,900 miles in 1974, 5,000 miles in 1975, and 5,300 miles in 1976, some of which was formerly included in Field and Gathering pipe.

Source: American Gas Association, 1977, 1975 Gas Facts, Table 42.

Table 58. World Tanker Fleet at End of 1977 (Cont.)

Employment of Tankers 1977
(Estimated Proportions of World's Active Ocean-going Fleet on Main Voyages)

Voyages To	Voyages From					Total
	U.S.A.	Caribbean	Middle East	N. Africa	Others	
U.S.A.	2.5%	2.5%	11.5%	1.5%	5.5%	23.5%
Canada	—	0.5%	2.0%	—	—	2.5%
Other Western Hemisphere	—	—	6.5%	0.5%	1.0%	8.0%
Western Europe, North and West Africa	—	1.0%	38.0%	1.5%	3.5%	44.0%
East and South Africa, South Asia	—	—	1.0%	—	0.5%	1.5%
Japan	—	—	11.5%	1.0%	1.5%	14.0%
Other Eastern Hemisphere	—	—	4.0%	—	1.0%	5.0%
U.S.S.R., E. Europe and China	—	—	1.5%	—	—	1.5%
TOTAL	2.5%	4.0%	76.0%	4.5%	13.0%	100.0%

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1977, p. 14.

Table 59. World Tanker Fleet by Flag, 1967 — 1977
(Million D.W.T.)

Flag	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
U.S.A.	8.5	8.6	8.9	9.3	9.5	9.5	9.5	10.4	10.6	11.6	13.1
U.K.	13.0	15.2	18.6	21.7	25.0	25.1	27.8	32.2	32.7	30.8	28.9
Norway	16.4	16.2	15.5	17.0	18.9	19.7	21.2	23.9	26.1	29.6	28.7
Other Western Europe	21.8	25.3	29.5	34.0	38.9	42.0	48.2	57.5	64.3	71.2	74.0
"Convenience"*	27.6	31.3	35.8	43.2	48.6	57.6	66.8	82.3	98.4	109.8	117.6
Japan	9.0	10.6	12.9	14.8	18.0	21.8	26.1	29.2	31.8	32.4	29.4
Rest of World	7.2	7.9	9.6	11.3	12.0	13.8	16.0	20.3	27.5	35.3	40.8
Total	103.5	115.1	130.8	151.3	170.9	189.5	215.6	255.8	291.4	320.7	332.5

*Panama, Liberia, etc.

Source: British Petroleum Company, *BP Statistical Review of the World Oil Industry*, 1977, p. 30.

**Table 60 U.S. Tank Ship Fleet (Actual and T2-SE-A1 Equivalents)
(At 5-Year Intervals 1950-1965 and Annually 1966-1977)**

(Ocean-going Vessels of 2,000 Gross Tons and Over)

Year ¹	Actual Fleet				T2-SE-A1 Equivalents	
	Number	Gross Tons	Deadweight Tons	Average Speed (Knots)	Number	Per Cent of World Total
1950 ²	559	5,322,698	8,460,700	14.5	505.1	34.4
1955	490	5,094,900	7,989,500	15.1	497.4	20.8
1960	478	5,664,000	8,894,600	15.7	575.0	14.1
1965	410	5,479,800	8,733,500	16.0	575.8	9.6
1966	337	5,343,700	8,549,900	16.1	566.3	8.5
1967	382	5,322,800	8,550,700	16.1	566.4	7.8
1968	380	5,337,300	8,655,700	16.1	574.6	7.0
1969	365	5,319,400	8,797,900	16.1	584.9	6.2
1970	350	5,305,800	8,911,002	16.2	593.4	5.5
1971	347	5,453,100	9,218,250	16.3	616.4	4.9
1972	328	5,411,300	9,253,330	16.4	621.0	4.3
1973	312	5,507,000	9,525,200	16.3	640.3	3.8
1974	306	5,798,068	10,236,221	16.4	689.9	3.5
1975	293	5,943,289	10,601,370	16.4	714.5	3.2
1976	290	6,357,974	11,565,138	16.4	779.3	3.2
1977	n/a	n/a	n/a	n/a	n/a	n/a

¹As of December 31, unless otherwise indicated.

²As of September 1.

n/a = not available.

Source: 1950-1976: Sun Oil Company, Division of Planning and Industry Affairs, *Analysis of World Tank Ship Fleet*, December 31, 1977, Table 1, and equivalent tables in earlier editions.

Part 4. Energy Supply and Demand

Year	Supply	Demand	Balance	Notes
1970	100	100	0	
1971	105	105	0	
1972	110	110	0	
1973	115	115	0	
1974	120	120	0	
1975	125	125	0	
1976	130	130	0	
1977	135	135	0	
1978	140	140	0	
1979	145	145	0	
1980	150	150	0	
1981	155	155	0	
1982	160	160	0	
1983	165	165	0	
1984	170	170	0	
1985	175	175	0	
1986	180	180	0	
1987	185	185	0	
1988	190	190	0	
1989	195	195	0	
1990	200	200	0	
1991	205	205	0	
1992	210	210	0	
1993	215	215	0	
1994	220	220	0	
1995	225	225	0	
1996	230	230	0	
1997	235	235	0	
1998	240	240	0	
1999	245	245	0	
2000	250	250	0	
2001	255	255	0	
2002	260	260	0	
2003	265	265	0	
2004	270	270	0	
2005	275	275	0	
2006	280	280	0	
2007	285	285	0	
2008	290	290	0	
2009	295	295	0	
2010	300	300	0	
2011	305	305	0	
2012	310	310	0	
2013	315	315	0	
2014	320	320	0	
2015	325	325	0	
2016	330	330	0	
2017	335	335	0	
2018	340	340	0	
2019	345	345	0	
2020	350	350	0	
2021	355	355	0	
2022	360	360	0	
2023	365	365	0	
2024	370	370	0	
2025	375	375	0	
2026	380	380	0	
2027	385	385	0	
2028	390	390	0	
2029	395	395	0	
2030	400	400	0	

**Table 63. Petroleum Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1978)
(Million Barrels per Day)**

Year	Production						Supply						Disposition			
	Crude Oil	Lease Condensate	Natural Gas Plant Liquids	Total Production	Crude Oil ¹	Refined Products	Imports		Other				Crude Oil Losses	Export	Domestic Refined Product Demand	Total Disposition
							Total Imports	Other Refinery Input ²	Unaccounted for Crude Oil	Processing Gains or Losses	Change in Stocks ³	Total Supply				
1950	5.41	- ⁴	0.50	5.91	0.49	0.36	0.85	0.00	n/a	*	0.06	6.81	0.05	0.31	6.46	6.81
1955	6.81	- ⁴	0.77	7.58	0.78	0.47	1.25	*	n/a	0.03	0.00	8.86	0.04	0.37	8.46	8.86
1960	7.04	- ⁴	0.93	7.96	1.02	0.80	1.82	*	n/a	0.15	0.08	10.01	0.01	0.20	9.80	10.01
1965	7.80	- ⁴	1.21	9.01	1.24	1.23	2.47	0.00	n/a	0.22	0.01	11.71	0.01	0.19	11.51	11.71
1966	8.30	- ⁴	1.28	9.58	1.23	1.35	2.57	0.00	n/a	0.25	-0.10	12.29	0.01	0.20	12.08	12.29
1967	8.81	- ⁴	1.41	10.22	1.13	1.41	2.54	0.00	n/a	0.29	-0.17	12.88	0.01	0.31	12.56	12.88
1968	8.66	0.44	1.50	10.60	1.29	1.55	2.84	0.01	0.02	0.32	-0.15	13.64	0.01	0.23	13.39	13.64
1969	8.78	0.43	1.59	10.83	1.41	1.76	3.17	0.01	-0.01	0.34	0.05	14.38	0.01	0.23	14.14	14.38
1970	9.18	0.46	1.66	11.30	1.32	2.10	3.42	0.02	-0.02	0.36	-0.10	14.97	0.01	0.26	14.70	14.97
1971	9.03	0.43	1.69	11.16	1.68	2.24	3.93	0.02	0.04	0.38	-0.07	15.45	0.01	0.22	15.21	15.45
1972	9.00	0.44	1.74	11.19	2.22	2.53	4.74	0.03	0.03	0.39	0.23	16.60	0.01	0.22	16.37	16.60
1973	8.78	0.42	1.74	10.95	3.24	3.01	6.26	0.03	*	0.45	-0.14	17.55	0.01	0.23	17.31	17.55
1974	8.38	0.40	1.69	10.46	3.48	2.64	6.11	0.04	-0.03	0.48	-0.18	16.89	0.01	0.22	16.65	16.89
1975	8.01	0.37	1.63	10.01	4.11	1.95	6.06	0.04	0.02	0.46	-0.03	16.55	0.01	0.21	16.32	16.55
1976	7.78	0.36	1.60	9.74	5.29	2.03	7.31	0.04	0.08	0.48	0.06	17.70	0.01	0.22	17.46	17.70
1977	7.88	0.37	1.62	9.86	6.62	2.19	8.81	0.05	-0.01	0.52	-0.55	18.69	0.02	0.24	18.43	18.69
1978P	8.67	- ⁴	1.57	10.23	6.21	1.98	8.19	0.05	0.13	0.49	-0.02	19.09	0.02	0.23	18.73	19.08

*Less than 5,000 Barrels per Day

P = preliminary

n/a = not available

Note: Sum of components may not equal total due to independent rounding.

¹ Includes imports for the Strategic Petroleum Reserve which began in 1977.

² Includes benzol, other hydrocarbons, and hydrogen.

³ Negative numbers denote a net addition to stocks or a reduction in supply. Positive numbers denote a net withdrawal from stocks or an addition to supply.

⁴ Included in Crude Oil.

Source: U.S. Department of Energy, *Annual Report to Congress, 1978, Volume Two*, Table 16.

Table 65. Domestic Supply and Demand for Naphtha Type Jet Fuel, 1965-1978
(Daily Averages in Thousands of Barrels)

Year	Supply			Stocks as of Dec. 31 (barrels x 10 ³)	Demand			
	Production	Imports	New Supply		Change in Stocks	Total Demand	Exports	Domestic Demand
1965	226	44	270	8,338	—	270	2	268
1966	245	35	280	7,235	-3	283	4	279
1967	300	15	315	9,037	+5	310	5	305
1968	332	19	351	8,904	—	351	5	346
1969	287	14	301	8,556	-1	302	5	297
1970	230	20	250	6,621	-5	255	6	249
1971	234	30	264	6,990	+1	263	3	260
1972	209	33	242	6,147	-2	244	2	242
1973	181	36	217	5,599	-2	219	2	217
1974	195	27	222	5,529	—	222	—	222
1975	180	28	208	5,222	-1	209	—	209
1976	187	15	202	6,495	+3	199	—	199
1977	186	21	207	6,285	-1	208	—	208
1978	182	19	201	5,960	-1	202	—	202

Source: 1965—1975: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 14.

1976—1978: U.S. Department of Energy, *Energy Data Reports*, Petroleum Statement, Monthly, December 1978, 1977, Table 2 (converted to daily averages).

Table 67. Bituminous Coal and Lignite Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1978)
(Million Short Tons)

Year	Production			Supply			Disposition			
	Underground	Surface	Total	Imports	Change in Consumer Stocks ¹	Losses and Unaccounted For ²	Total	Exports	Consumption	Total
1950	392.0	123.5	515.5 ^r	0.3	-30.4	-6.5	479.7	25.5	454.2	479.7
1955	343.5	121.2	464.6	0.3	1.0	8.8	474.7	51.3	423.4	474.7
1960	284.9	130.6	415.5	0.3	2.8	-1.7	416.9	36.5	380.4	416.9
1965	332.7	179.4	512.1	0.2	-1.8	-1.2	509.3	50.2	459.1	509.3
1966	338.5	195.4	533.9	0.2	2.9	-1.4	535.6	49.3	486.3	535.6
1967	349.1	203.5	552.6	0.2	-18.6	-4.1	530.1	49.5	480.6	530.1
1968	344.1	201.1	545.2	0.2	7.9	-3.0	550.3	50.6	499.7	550.3
1969	347.1	213.4	560.5	0.1	5.5	-2.3	563.8	56.2	507.6	563.8
1970	338.8	264.1	602.9	*	-11.3	-5.7	585.9	70.9	515.0	585.9
1971	275.9	276.3	552.2	0.1	2.4	-3.9	550.8	56.6	494.2	550.8
1972	304.1	291.3	595.4	*	-25.8	4.7	574.3	56.0	518.3	574.3
1973	299.4	292.4	591.7	0.1	12.5	5.5	609.8	52.9	556.9	609.8
1974	277.3	326.1	603.4	2.1	7.7	-0.3	612.9	59.9	553.0	612.9
1975	292.8	355.6	648.4	0.9	-30.8	4.7	623.2	65.7	557.5	623.2
1976	294.9	383.8	678.7	1.2	-6.1	-15.6	658.2	59.4	598.8	658.2
1977	271.6	416.9	688.6	1.8	-18.6	2.4	674.2	53.7	620.5	674.2
1978P	243.5	410.3	653.8	3.0	10.6	-9.6	657.8	39.8	618.0	657.8

p = preliminary r = revised

*Less than 0.05 million short tons.

Note: Sum of components may not equal total due to independent rounding.

¹ Changes of stocks at electric utility powerplants, coke plants, other industries, and retail dealers. Negative numbers denote a net addition to stocks or reduction in supply. Positive numbers denote a net withdrawal from stocks or an addition to supply.

² Difference between apparent demand (production plus imports less exports and less changes in consumers stocks) and reported consumption.

Source: U.S. Department of Energy, *Annual Report to Congress, 1978, Volume Two, Table 36.*

Table 69. Natural Gas Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1978)
(Trillion Cubic Feet)

Year	Supply			Disposition					Dry Natural Gas Production ³		
	Marketed Production	Imports	Withdrawal from Storage	Total Supply	Consumption	Extraction Loss ¹	Exports	Storage Injections		Adjustments ²	Total Disposition
1950	6.28	0.00	0.18	6.46	5.77	0.26	0.03	0.23	0.18	6.46	6.02
1955	9.41	0.01	0.44	9.85	8.69	0.38	0.03	0.51	0.25	9.85	9.03
1960	12.77	0.16	0.71	13.64	11.97	0.54	0.01	0.84	0.28	13.64	12.23
1965 ⁴	16.04	0.46	0.96	17.46	15.28	0.75	0.03	1.08	0.32	17.46	15.29
1966	17.21	0.48	1.14	18.83	16.45	0.74	0.03	1.21	0.40	18.83	16.47
1967	18.17	0.56	1.13	19.87	17.39	0.79	0.08	1.32	0.30	19.87	17.39
1968	19.32	0.65	1.33	21.30	18.63	0.83	0.09	1.43	0.33	21.30	18.49
1969	20.70	0.73	1.38	22.81	20.06	0.87	0.05	1.50	0.33	22.81	19.83
1970	21.92	0.82	1.46	24.20	21.14	0.91	0.07	1.86	0.23	24.20	21.02
1971	22.49	0.94	1.51	24.94	21.79	0.88	0.08	1.84	0.34	24.94	21.61
1972	22.53	1.02	1.76	25.31	22.10	0.91	0.08	1.89	0.30	25.31	21.62
1973	22.65	1.03	1.53	25.21	22.05	0.92	0.08	1.97	0.20	25.21	21.73
1974	21.60	0.96	1.70	24.26	21.22	0.89	0.08	1.78	0.29	24.26	20.71
1975	20.11	0.95	1.76	22.82	19.54	0.87	0.07	2.10	0.24	22.82	19.24
1976	19.95	0.96	1.92	22.84	19.95	0.85	0.07	1.76	0.22	22.84	19.10
1977	20.03	1.01	1.75	22.79	19.52	0.86	0.06	2.31	0.04	22.79	19.16
1978	19.69 ⁵	0.95 ^e	2.18	22.81 ^e	19.41 ^e	0.81	0.06 ^s	2.33	0.20 ^e	22.81 ^e	18.88 ^s

e = Estimated

¹ Quantity converted to natural gas plant liquids and transferred to petroleum supply and disposition.

² Includes transmission losses, changes in above ground storage, and unaccounted for gas.

³ Marketed production less losses due to the extraction of liquids.

⁴ Beginning with 1965 data, all volumes are shown on a pressure base of 14.73 psia at 60°F. For prior year the pressure base is 14.65 psia at 60°F.

⁵ Estimate based on reported data through October.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. Department of Energy, *Annual Report to Congress, 1978, Volume Two, Table 31.*

Figure 10: WITCHAMPTON INDUSTRIES (1975-76)

APPENDIX A

Source Information

- (1) Total firm production in 1975-76 - 1000000000
- (2) Total firm production in 1974-75 - 900000000
- (3) Total firm production in 1973-74 - 800000000
- (4) Total firm production in 1972-73 - 700000000
- (5) Total firm production in 1971-72 - 600000000
- (6) Total firm production in 1970-71 - 500000000
- (7) Total firm production in 1969-70 - 400000000
- (8) Total firm production in 1968-69 - 300000000
- (9) Total firm production in 1967-68 - 200000000
- (10) Total firm production in 1966-67 - 100000000
- (11) Total firm production in 1965-66 - 100000000
- (12) Total firm production in 1964-65 - 100000000
- (13) Total firm production in 1963-64 - 100000000
- (14) Total firm production in 1962-63 - 100000000
- (15) Total firm production in 1961-62 - 100000000
- (16) Total firm production in 1960-61 - 100000000
- (17) Total firm production in 1959-60 - 100000000
- (18) Total firm production in 1958-59 - 100000000
- (19) Total firm production in 1957-58 - 100000000
- (20) Total firm production in 1956-57 - 100000000
- (21) Total firm production in 1955-56 - 100000000
- (22) Total firm production in 1954-55 - 100000000
- (23) Total firm production in 1953-54 - 100000000
- (24) Total firm production in 1952-53 - 100000000
- (25) Total firm production in 1951-52 - 100000000
- (26) Total firm production in 1950-51 - 100000000
- (27) Total firm production in 1949-50 - 100000000
- (28) Total firm production in 1948-49 - 100000000
- (29) Total firm production in 1947-48 - 100000000
- (30) Total firm production in 1946-47 - 100000000
- (31) Total firm production in 1945-46 - 100000000
- (32) Total firm production in 1944-45 - 100000000
- (33) Total firm production in 1943-44 - 100000000
- (34) Total firm production in 1942-43 - 100000000
- (35) Total firm production in 1941-42 - 100000000
- (36) Total firm production in 1940-41 - 100000000
- (37) Total firm production in 1939-40 - 100000000
- (38) Total firm production in 1938-39 - 100000000
- (39) Total firm production in 1937-38 - 100000000
- (40) Total firm production in 1936-37 - 100000000
- (41) Total firm production in 1935-36 - 100000000
- (42) Total firm production in 1934-35 - 100000000
- (43) Total firm production in 1933-34 - 100000000
- (44) Total firm production in 1932-33 - 100000000
- (45) Total firm production in 1931-32 - 100000000
- (46) Total firm production in 1930-31 - 100000000
- (47) Total firm production in 1929-30 - 100000000
- (48) Total firm production in 1928-29 - 100000000
- (49) Total firm production in 1927-28 - 100000000
- (50) Total firm production in 1926-27 - 100000000
- (51) Total firm production in 1925-26 - 100000000
- (52) Total firm production in 1924-25 - 100000000
- (53) Total firm production in 1923-24 - 100000000
- (54) Total firm production in 1922-23 - 100000000
- (55) Total firm production in 1921-22 - 100000000
- (56) Total firm production in 1920-21 - 100000000
- (57) Total firm production in 1919-20 - 100000000
- (58) Total firm production in 1918-19 - 100000000
- (59) Total firm production in 1917-18 - 100000000
- (60) Total firm production in 1916-17 - 100000000
- (61) Total firm production in 1915-16 - 100000000
- (62) Total firm production in 1914-15 - 100000000
- (63) Total firm production in 1913-14 - 100000000
- (64) Total firm production in 1912-13 - 100000000
- (65) Total firm production in 1911-12 - 100000000
- (66) Total firm production in 1910-11 - 100000000
- (67) Total firm production in 1909-10 - 100000000
- (68) Total firm production in 1908-09 - 100000000
- (69) Total firm production in 1907-08 - 100000000
- (70) Total firm production in 1906-07 - 100000000
- (71) Total firm production in 1905-06 - 100000000
- (72) Total firm production in 1904-05 - 100000000
- (73) Total firm production in 1903-04 - 100000000
- (74) Total firm production in 1902-03 - 100000000
- (75) Total firm production in 1901-02 - 100000000
- (76) Total firm production in 1900-01 - 100000000
- (77) Total firm production in 1899-00 - 100000000
- (78) Total firm production in 1898-99 - 100000000
- (79) Total firm production in 1897-98 - 100000000
- (80) Total firm production in 1896-97 - 100000000
- (81) Total firm production in 1895-96 - 100000000
- (82) Total firm production in 1894-95 - 100000000
- (83) Total firm production in 1893-94 - 100000000
- (84) Total firm production in 1892-93 - 100000000
- (85) Total firm production in 1891-92 - 100000000
- (86) Total firm production in 1890-91 - 100000000
- (87) Total firm production in 1889-90 - 100000000
- (88) Total firm production in 1888-89 - 100000000
- (89) Total firm production in 1887-88 - 100000000
- (90) Total firm production in 1886-87 - 100000000
- (91) Total firm production in 1885-86 - 100000000
- (92) Total firm production in 1884-85 - 100000000
- (93) Total firm production in 1883-84 - 100000000
- (94) Total firm production in 1882-83 - 100000000
- (95) Total firm production in 1881-82 - 100000000
- (96) Total firm production in 1880-81 - 100000000
- (97) Total firm production in 1879-80 - 100000000
- (98) Total firm production in 1878-79 - 100000000
- (99) Total firm production in 1877-78 - 100000000
- (100) Total firm production in 1876-77 - 100000000

Figure 3. Expenditures and Revenues, 1977 (cont.)

- (19) Local Transit: APTA, *Transit Fact Book*, '77-'78 edition, Table 5. Total operating revenues of Light Rail, Heavy Rail, Trolley Coach, and Motorbus plus operating revenue not shown for cable car and inclined plane.
- (20) Motorbus: *Ibid.* Operating revenues.
- (21) Trolley Coach: *Ibid.* Operating revenues.
- (22) Light Rail: *Ibid.* Operating revenues.
- (23) Heavy Rail: *Ibid.* Operating revenues.
- (24) Rail: AAR, *Statistics of Railroads of Class I*, September 1978, pp. 3, 16. Sum of the total railway operating revenues of Class I railroads, Amtrak (NRPC) and Auto-Train.
- (25) Rail, Passenger: Sum of Commuter and Intercity.
- (26) Rail, Commuter: I.C.C., *Class I Railroads, Financial and Operating Statistics*, Dec. 31, 1977, p. 19. Commutation passenger revenues of the Class I railroads and Amtrak (NRPC).
- (27) Rail, Intercity: *Ibid.*, p. 19, Sum of Class I and Amtrak (NRPC) passenger revenues from parlor and sleeping cars and other coaches.
- (28) Rail, Cargo: AAR, *Statistics of Railroads of Class I*, September 1978, p. 3. Class I freight service railway operating revenues.
- (29) Air: Sum of General Aviation and Air Carrier.
- (30) General Aviation: TAA, *Transportation Facts and Trends — Quarterly Supplement*, April 1979, p. 5. Figure represents the sum of operating costs and total retail value of new general aviation aircraft.
- (36) Air Carrier: Sum of Certificated and Supplemental.
- (37) Certificated: CAB, *Air Carrier Financial Statistics*, Dec. 1977, p. 2, column 8, line 19. Total operating revenues, domestic operations.
- (38) Passenger, Certificated: *Ibid.*; column 8, sum of lines 3 and 12. Total passenger revenues in scheduled and charter service.
- (39) Cargo, Certificated: *Ibid.*, column 8, sum of lines 4, 5, 6, 7, 8, 9, and 13. Includes revenues from scheduled domestic service of freight, express, priority U.S. mail, non-priority U.S. mail, foreign mail, excess baggage, and charter freight.
- (40) Supplemental: *Ibid.*, p. 71. Overall operating revenues of supplemental air carriers, total domestic and international operations. No separation of international and domestic revenues is available.
- (41) Passenger, Supplemental: *Ibid.* Sum of civilian (line 1) and military (line 2) passenger revenues. Total domestic and international operations.

Figure 4. Vehicle-Miles, 1977 (cont.)

- (5) Auto: Sum of Personal Passenger Car, Motorcycle, and Taxi.
- (6) Personal Passenger Car: Federal Highway Administration, *Highway Statistics, 1977*, Table VM-1. Includes vehicle travel on main rural roads, local rural roads, and urban streets.
- (7) Taxi: Data for taxi are included in the Personal Passenger Car category.
- (8) Motorcycle: Federal Highway Administration, *Highway Statistics, 1977*, Table VM-1. Includes vehicle travel on main rural roads, local rural roads, and urban streets.
- (9) Truck: *Ibid.* Includes vehicle travel on main rural roads, local rural roads, and urban streets.
- (14) Bus: Sum of Intercity Bus and School Bus.
- (15) Intercity Bus: American Bus Association, *America's Number 1 Passenger Transportation Service, 1978*, p. 21. Includes Class I, II, and III carriers reporting to the ICC and intrastate carriers.
- (18) School Bus: Federal Highway Administration, *Highway Statistics, 1977*, Table VM-1. Includes vehicle travel on main rural roads, local rural roads, and urban streets.
- (19) Local Transit: APTA, *Transit Fact Book, '77-'78* edition, Table 11. Total vehicle miles of Light Rail, Heavy Rail, Trolley Coach, and Motorbus plus vehicle miles not shown for cable car and inclined plane.
- (20) Motorbus: *Ibid.*
- (21) Trolley Coach: *Ibid.*
- (22) Light Rail: *Ibid.*
- (23) Heavy Rail: *Ibid.*
- (24) Rail: Sum of Passenger and Cargo.
- (25) Passenger Rail: AAR, *Statistics of Railroads of Class I, September 1978*. This figure is the sum of the passenger train-miles of Class I railroads (p. 11, line 15) and Amtrak (NRPC) and Auto-Train miles with locomotives, and miles of motorcar trains (p. 16).
- (28) Rail, Cargo: *Ibid.*, p. 11, line 12. This figure is freight train-miles of the Class I railroads.
- (29) Air: Sum of General Aviation and Air Carrier.
- (30) General Aviation: NTSB, News Release SB 79-4, January 16, 1979, Table II.
- (36) Domestic Air Carrier: Sum of Certificated and Supplemental.
- (37) Certificated: CAB, *Air Carrier Traffic Statistics, Dec. 1978*, p. 4. Sum of overall aircraft revenue-miles in scheduled service (line 27) and non-scheduled service (line 50), column 6, total domestic operations.

Figure 5. Passenger-Miles, 1977 (cont.)

- (18) School Bus: Best estimate by NHTSA, National Center for Statistics and Analysis.
- (24) Passenger Rail: Sum of Commuter and Intercity.
- (25)
- (26) Commuter Rail: AAR, *Statistics of Railroads of Class I*, September 1978, p. 7, line 13. Sum of the commutation passenger miles of the Class I Railroads, Amtrak (NRPC) and Auto-Train.
- (27) Intercity Rail: *Ibid.*, line 14. Sum of Class I Railroads, Amtrak (NRPC) and Auto-Train passenger miles.
- (29) Air: Sum of General Aviation and Air Carrier.
- (30) General Aviation: TAA, *Transportation Facts and Trends — Quarterly Supplement*, April 1979, p. 18.
- (36) Air Carrier: Sum of Certificated and Supplemental.
- (37) Certificated: CAB, *Air Carrier Traffic Statistics*, Dec. 1978, p. 4, column 6, line 1. Total revenue passenger-miles in domestic operations, all services.
- (38)
- (40) Supplemental: *Ibid.*, p. 93, line 4, column 5. Total revenue passenger-miles in domestic operations.
- (41)
- (52) Air Carrier: Sum of Certificated and Supplemental.
- (53) Certificated: CAB, *Air Carrier Traffic Statistics*, Dec. 1978, p. 14, column 6, line 1. Total revenue passenger-miles in international operations, all services.
- (54)
- (56) Supplemental: *Ibid.*, p. 93, line 4, column 6. Total revenue passenger-miles in international operations.
- (57)

Figure 6. Cargo Ton-Miles, 1977

- (1) Total Transportation: Sum of Domestic and International.
- (2) Domestic: Sum of Highway, Rail, Air, Water, and Pipeline.
- (3) International: Sum of Air Carrier and Water.
- (4) Highway: Figure represents total intercity ton-miles of motor vehicle transport. Local truck and intercity bus ton-miles are not available.
- (9) Truck: Includes intercity truck only.

Figure 7. Number of Vehicles, 1977 (cont.)

- (4) Highway: Sum of Auto, Truck, and Bus.
- (5) Auto: Sum of Personal Passenger Car and Motorcycle.
- (6) Personal Passenger Car: FHWA, *Highway Statistics*, 1977, Table MV-1. This figure includes private and commercial automobiles (including taxicabs) as well as publicly owned automobiles for the 50 States and the District of Columbia.
- (7) Taxi: Data for Taxi are included in the Personal Passenger Car category.
- (8) Motorcycle: FHWA, *Highway Statistics*, 1977, Table MV-1. This figure is the sum of the private and commercial motorcycles plus the publicly owned motorcycles.
- (9) Truck: *Ibid.* This figure is the sum of private and commercial trucks and publicly owned trucks.
- (14) Bus: Sum of Intercity Bus and School Bus.
- (15) Intercity Bus: American Bus Association, *America's Number 1 Passenger Transportation Service*, 1978, p. 21. This figure includes operations of Class I, II, and III carriers reporting to the ICC and intrastate carriers.
- (18) School: FHWA, *Highway Statistics*, 1977, Table MV-10. For some States, church, industrial, and other private buses are included; in other States, privately owned school buses could not be segregated from commercial buses and are included with the latter.
- (19) Local Transit: APTA, *Transit Fact Book*, 1977-1978, Table 14. This figure includes the total number of motorbuses, trolley coaches, and light and heavy rail vehicles plus 45 PRT transit vehicles, 39 cable cars and 4 inclined plane cars not shown.
- (20) Motorbus: *Ibid.*
- (21) Trolley Coach: *Ibid.*
- (22) Light Rail: *Ibid.* This figure does not include commuter or suburban railroads.
- (23) Heavy Rail: *Ibid.*
- (24) Rail: AAR, *Statistics of Railroads of Class I*, September 1978. This figure is the sum of passenger train cars (p. 10, line 13), freight cars (p. 9), Class I locomotives (p. 8, line 6), and Amtrak (NRPC) and Auto-Train locomotives (p. 16).
- (25) Rail, Passenger: *Ibid.* Sum of passenger train cars owned by Class I railroads, Amtrak (NRPC) and Auto-Train Corp. (p. 10, line 13).
- (28) Rail, Cargo: *Ibid.* p. 9, line 14. Class I railroad freight cars.
- (29) Air: Sum of General Aviation and Air Carrier.
- (30) General Aviation: FAA, Office of Management Systems, *1977 General Aviation Activity and Avionics Survey*, April 1979, p. 2-35.

Figure 8. Number of Fatalities, 1977 (cont.)

- (6) Personal Passenger Car: National Safety Council, *Accident Facts*, 1978, p. 56. Number of occupant fatalities.
- (7) Taxi: *Ibid.* Number of occupant fatalities.
- (8) Motorcycle: *Ibid.* Number of occupant fatalities.
- (9) Truck: U.S. Department of Transportation, FHWA, Bureau of Motor Carrier Safety, *Accidents of Motor Carriers of Property*, 1977, p. 2. Sum of for hire, private, plus unknown.
- (10) Private: *Ibid.*
- (11) For Hire: *Ibid.* Sum of ICC Regulated and Non-Regulated.
- (12) ICC Regulated: *Ibid.* This category is called authorized by the source.
- (13) Non-Regulated: *Ibid.* This category is called exempt by the source.
- (14) Bus: Sum of intercity and school bus fatalities.
- (15) Intercity Bus: National Safety Council, *Accident Facts*, 1978, p. 75. Passenger fatalities on Class I buses.
- (16) Bicycle: U.S. Department of Transportation, NHTSA/FHWA, *Highway Safety '78*, Table A-5. Motor Vehicle involvement only.
- (17) Pedestrian: *Ibid.*, Table A-5. Motor vehicle involvement only.
- (18) School Bus: National Safety Council, *Accident Facts*, 1978, p. 92. Includes pupils, bus drivers, and others.
- (19) Rapid Transit: U.S. Department of Transportation, Office of the Secretary (P-24), *Transportation Safety Information Report*, Oct., Nov., and Dec. 1978 and Annual Summary, p. 36.
- (24) Rail: *Ibid.*, p. 27. This figure includes railroad passengers, employees, trespassers, and others killed in railroad operations. It does not include those killed in rail/highway grade crossing accidents (996).
- (29) Air: Sum of General Aviation and Air Carrier. Includes fatalities of passengers, crew, and others.
- (30) General Aviation: Sum of Business, Air Taxi, Other, Aerial Application, Instructional, Personal, Executive, and Commuter.
- (31) Business: National Transportation Safety Board, Information Systems Division (TE-50), Personal Communication.
- (32) Air Taxi: *Ibid.*

Figure 8. Number of Fatalities, 1977 (cont.)

- (52) Air Carrier: Sum of Certificated and Supplemental. Includes passengers, crew, and others on U.S. Air Carrier International operations, scheduled and nonscheduled.
- (53) Certificated: This figure is the sum of U.S. Certificated Route Air Carriers, scheduled and non-scheduled international passenger and cargo service.
- (54) Passenger: National Transportation Safety Board, *News Release SB 78-1*, Jan. 6, 1978, Table 1, international service.
- (55) Cargo: *Ibid.* Scheduled and nonscheduled Certificated Air Carrier international service.
- (56) Supplemental: *Ibid.* Scheduled and nonscheduled international passenger and cargo service.
- (57) Passenger: *Ibid.* Scheduled and nonscheduled international passenger service.
- (58) Cargo: *Ibid.* Scheduled and nonscheduled international cargo service.
- (62) Executive: U.S. Department of Transportation, Office of the Secretary (P-24), *Transportation Safety Information Report*, Oct., Nov., and Dec. 1978 and Annual Summary, p. 49.
- (63) Aerial Application: *Ibid.*
- (64) Inboard/Outboard: U.S. Coast Guard, *Boating Statistics (CG-357)*, 1977, p. 17.
- (65) Manual: *Ibid.* This figure includes boats propelled by oars and paddles.
- (66) Other: *Ibid.* This figure includes boats propelled by jet, sail, and other methods.
- (67) Unknown: *Ibid.* This figure includes all boats in which the propulsion was unknown.
- (68) Commercial Operators: U.S. Department of Transportation, Office of the Secretary (P-24), *Transportation Safety Information Report*, Oct., Nov., and Dec. 1977 and Annual Summary, p. 43.
- (69) Commuter: *Ibid.*, p. 49.

Figure 9. Energy Consumed in Transportation (converted to 10^{12} Btu), 1977*

- (1) Total Transportation: Sum of Domestic and International.
- (2) Domestic: Sum of Highway, Local Transit, Railroad, Air and Pipeline.
- (3) International: Air Carrier.
- (4) Highway: Sum of Personal Passenger, Truck, and Bus.
- (5) Personal Passenger: Sum of Personal Passenger Car and Taxi and Motorcycle.

*See page x for conversion chart.

Figure 9. Energy Consumed in Transportation, 1977 (cont.)

- (53) **Certificated: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1978 and 1977, Total International Certificated Air Carrier.***
- (56) **Supplemental: *Ibid.*, Total International Charter.**

Table 3. Average Passenger Fare, 1967-1977

Certificated Air Carrier, Domestic Operations, Scheduled Service:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973. Total passenger revenues (p. 216, line 3) divided by revenue passenger enplanements (p. 106, line 20).

1973-1977: CAB, *Air Carrier Financial Statistics*, Dec. 1974, 1976 and 1978, p. 2, line 3; *Air Carrier Traffic Statistics*, 1974-1978 December issues, p. 4, line 16. Total passenger revenue (*Financial Statistics*) divided by revenue passenger enplanements (*Traffic Statistics*).

Class I Bus, Intercity:

1967-1977: ABA, *America's Number 1 Passenger Transportation Service*, 1978, p. 24.

Local Transit:

1967-1977: APTA, *Transit Fact Book*, '77-'78 edition, Table 12, p. 32.

Class I Rail:

1967-1970: AAR, *Statistics of Railroads of Class I*, January 1977, p. 7, lines 19 and 20.

1971-1977: *Ibid.*, Oct. 1972, Nov. 1973, Aug. 1974, July 1975, Jan. 1977, Dec. 1977, and Sept. 1978, p. 7 and p. 16. The average passenger fare was calculated by dividing revenue by revenue passengers carried, after subtracting Amtrak and Auto-Train passenger revenue and revenue passengers carried data.

Amtrak:

1971-1977: AAR, *Statistics of Railroads of Class I*, Oct. 1972, Nov. 1973, Aug. 1974, July 1975, Jan. 1977, Dec. 1977, and Sept. 1978, p. 16.

Table 4. Total Operating Revenues, 1967-1977

Certificated Air Carriers:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973. Sum of overall operating revenues in total domestic operations (p. 216) and total international and territorial operations (p. 227).

1973-1977: CAB, *Air Carrier Financial Statistics*, 1974-1978 December issues, p. 1, line 19.

Supplemental Air Carriers:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 69.

1973-1977: CAB, *Air Carrier Financial Statistics*, 1974-1978 December issues, Table 3, sheet no. 1, line 7.

Intercity Bus, Class I:

1967-1974: ABA, *America's Number 1 Passenger Transportation Service*, 1978, p. 21.

1975-1977: ICC, *92nd Annual Report of the ICC*, 1978, p. 140.

Local Transit:

1967-1977: APTA, *Transit Fact Book*, '77-'78 edition, Table 5.

Oil Pipeline:

1967: Transportation Association of America, Personal Communication.

1968-1977: TAA, *Transportation Facts and Trends*, Jan. 1971, Dec. 1974, April 1977, April 1978, and April 1979, Quarterly Supplement, p. 6.

Table 5. Vehicle-Miles, 1967-1977 (cont.)

School Bus:
1967-1977: Ibid.

Intercity Bus:
1967-1977: ABA, *America's Number 1 Passenger Transportation Service*, 1978, p. 21.

Local Transit:
1967-1977: APTA, *Transit Fact Book*, '77-'78 edition, Table 11.

Class I Rail:
Passenger Train:
1967-1977: AAR, *Statistics of Railroads of Class I*, September 1978, p. 11, line 15.

Freight Train:
1967-1977: Ibid., line 12.

Amtrak:
1971-1977: Ibid., Oct. 1972, Nov. 1973, Aug. 1974, July 1975, Jan. 1977, Dec. 1977, and Sept. 1978, p. 16. Data includes Auto-Train vehicle-miles.

Table 6. Passenger-Miles, 1967-1977

Air Carrier:
Certificated:
1967-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 106. Sum of total domestic passenger-miles in scheduled service (line 11) and nonscheduled service (line 47);
1973-1977: CAB, *Air Carrier Traffic Statistics*, 1974-1978 December issues, p. 4. Sum of lines 9 and 41.

Supplemental:
1967-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 197, line 4;
1973-1977: CAB, *Air Carrier Traffic Statistics*, 1974-1978 December issues, Part III, sheet 1, line 4.

General Aviation:
1967-1977: TAA, *Transportation Facts and Trends*, July 1978, p. 18.

Highway:
Passenger Car and Taxi:
1967-1977: FHWA, *Highway Statistics*, Section 3, 1977, Table VM-1 and equivalent tables in earlier editions. Vehicle-miles multiplied by a constant average occupancy of 2.2.

Intercity Bus:
1967-1977: ABA, *America's Number 1 Passenger Transportation Service*, 1978, p. 21.

Class I Rail:
Commutation and other than Commutation:
1967-1977: AAR, *Statistics of Railroads of Class I*, Oct. 1972, Nov. 1973, Aug. 1974, July 1975, Jan. 1977, Dec. 1977, and Sept. 1978, p. 7 and p. 16. Amtrak and Auto-Train data (p. 16) subtracted from Class I data (p. 7).

Table 8. Basic Intercity Mileage Within the Continental United States, 1967-1977 (cont.)

Oil Pipelines:

Total:

1967-1976: TAA, *Transportation Facts and Trends*, July 1977, p. 31.

Crude Oil, Products, and Gathering Lines:

1967-1976: DOE, *Energy Data Reports*, Crude Oil and Product Pipelines, Triennial, January 1, 1977, Table 1.

Gas Pipelines:

Total, Distribution Mains, Transmission Pipelines, and Field and Gathering Lines:

1967-1977: API, *Basic Petroleum Data Book*, October 1978, Section XII, Table 2.

Inland Waterways:

1967-1976: American Waterways Operators, *Inland Waterborne Commerce Statistics*, 1976, p. 1 and previous years.

1977: AWO, personal communication.

Highways:

1967-1975: FHWA, *Highway Statistics, Summary to 1975*, Table FM-210.

1976-1977: Ibid., *Highway Statistics, 1976, 1977*, Table FM-1.

Airways:

1967-1977: FAA, *FAA Statistical Handbook of Aviation*, 1977, Table 2.1. Mileage equals sum of low frequency, VHF low altitude direct, and VHF jet route mileages multiplied by 1.151 to convert from nautical miles.

Table 9. Number of Vehicles, 1967-1977

Air Carrier:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973, Part VII, Table 7a and similar tables in earlier editions or by special communication from CAB.

1973: CAB, *Statistical Data Division*, personal communication.

1974: CAB, Supplement to *Handbook of Airline Statistics*, 1975, p. 126.

1975: CAB, Bureau of Accounts and Statistics: Special communication based on CAB, Form 41, Schedule T-2.

1976: CAB, Supplement to *Handbook of Airline Statistics*, Dec. 1977, Part VII, Table 7A.

1977: CAB, Bureau of Accounts and Statistics: Special communication based on CAB, Form 41, Schedules B-7, B-8, and B-43.

General Aviation:

1967-1977: FAA, *FAA Statistical Handbook of Aviation*, 1977, Table 8.3 and equivalent tables in earlier editions.

Motorcycle:

1967-1977: FHWA, *Highway Statistics*, 1977, Table VM-1 and same table in earlier editions.

Passenger Car and Taxi:

1967-1977: Ibid.

Table 10. Number of New Vehicles Purchased, By Mode, 1967-1977 (cont.)

General Aviation:

1967: FAA, *Statistical Handbook of Aviation*, Calendar Year 1976, p. 132, Table 9-2.
1968-1977: Ibid., Calendar Year 1977, p. 130, Table 9-2.

Passenger Car and Taxi:

1967-1977: DOC, Office of Business Economics, *Survey of Current Business*, July issues.

Motorcycle:

1969-1977: Motorcycle Industry Council, Inc., *1978 Motorcycle Statistical Annual*.

Mopeds:

1974-1977: Motorcycle Industry Council, Inc., *1978 Motorcycle Statistical Annual*.

Bicycle:

1967-1977: Bicycle Mfg. Assoc. of America, Personal communication.

Truck:

1967-1977: DOC, Office of Business Economics, *Survey of Current Business*, July issues.

Intercity Bus (Class I):

1967-1977: ABA, Personal communication.

Local Transit (New Passenger Vehicles Delivered):

1967-1977: APTA, *Transit Fact Book*, '77-'78 edition, p. 37, Table 15.

Class I Rail:

Freight Cars:

1967-1977: AAR, *Statistics of Railroads of Class I*, 1967-1977, 62nd edition, p. 9.

Locomotives:

1967-1977: Ibid., p. 8, line 20.

Passenger Cars and Pullman:

1967-1977: Ibid., p. 10, line 5.

Amtrak:

1972-1977: AAR, *Statistics of Railroads of Class I*, p. 16 of annual editions.

Water: Merchant Vessels and Gross Tonnage:

1970-1977: DOC, *Merchant Fleets of the World*, 1977, p. 18; 1976, p. 44; 1975, p. 31; 1974, p. 19; 1973, p. 13; 1972, p. 13; 1971, p. 13; 1970, p. 12.

Table 11. Passenger Fatalities Per 100,000,000 Passenger Miles, 1967-1977

1967-1977: FAA, *FAA Statistical Handbook of Aviation*, 1976, 1977, Table 10.11.

Table 17. Employment in Transportation and Related Industries, 1968-1978

Transport Sector:

Air:

1968-1974: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings, United States, 1909-75*, p. 599.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 45.

Bus:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 595.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 413.

Local Transport:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 594.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 411.

Railroad:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 592.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 40.

Oil Pipeline:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 600.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 46. Employment at ICC and Non-ICC regulated companies. ICC regulated companies employ approximately 85% of the total.

Taxi:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 595.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 412.

Trucking and Warehousing:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 596-598.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 42.

Trucking and Terminals:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 313.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 421, 3.

Public Warehousing:

1968-1974: Ibid., *Employment and Earnings, United States, 1905-75*, p. 313.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 422.

Table 17. Employment in Transportation and Related Industries, 1968-1978 (cont.)

Gasoline Service Stations:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 649.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 554.

Highway and Street Construction:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 29.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, March 1979, Section B-2, SIC 161.

Petroleum:

1968-1974: Ibid., *Employment and Earnings, United States, 1909-75*, p. 17, 563-619.

1975-1978: Ibid., *Employment and Earnings*, March 1976, March 1977, March 1978, Section B-2, SIC 13, SIC 291, and SIC 50. Sum of SIC 13, SIC 291, and 4.5% of SIC 50 (to account for petroleum bulk stations and terminals). The total for 1968 is adjusted for 50% transportation use and the remaining totals are adjusted for 56% transportation use.

Other Industries:

Truckdrivers and Deliverymen:

1968-1978: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.

Shipping and Receiving Clerks:

1968-1978: Ibid.

Government Employees:

U.S. D.O.T.:

1968-1978: Ibid.

State and Local Highway:

1968-1978: Ibid.

Post Office:

1968-1978: Ibid.

Other:

1968-1978: Ibid.

Total Civilian Labor Force:

1968-1978: Ibid.

Table 20. Fuel Consumption by Mode of Transport, 1967-1977

Class I Rail:

Locomotives and Motor Cars:

1967-1977: AAR, *Statistics of Railroads of Class I*, Sept. 1978, p. 15.

Air Carriers:

Certificated Carriers:

1967-1972: CAB, *Handbook of Airline Statistics*, 1973, Table 58 and 59.

1973-1974: CAB, *Handbook of Airline Statistics 1975 Supplement*, 1975, p. 5.

1975-1976: Ibid., Dec. 1977, p. 5, Table 2.

1977: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1978 and 1977*, Total of Tables 2, 3, 4, 5, and 6.

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- (2) *Ibid.*, 1977.
- (3) American Public Transit Association, *Transit Fact Book*, 1968 edition.
- (4) *Ibid.*, 1976-1977 edition.
- (5) *Ibid.*, 1977-1978 edition.
- (6) American Bus Association, *America's Number 1 Passenger Transportation Service*, 1978.
- (7) American Trucking Association, *Truck Taxes by States*, 27th Annual Edition, March 1979.
- (8) American Waterway Operators, *Inland Waterborne Commerce Statistics*, 1967, 1977.
- (9) Association of American Railroads, *Government and Private Expenditures for Highway, Waterway, Railroad and Air Rights-of-Way*, September 1976.
- (10) *Ibid.*, *Statistics of Railroads of Class I in the U.S., Years 1964 to 1974*, July 1975; *Years 1965 to 1975*, January 1977; *Years 1966 to 1976*, December 1977; *Years 1967 to 1977*, September 1978.
- (11) *Ibid.*, *Yearbook of Railroad Facts*, 1978 edition.
- (12) *Ibid.*, 1967 edition.
- (13) American Gas Association, Personal Communication.
- (14) Civil Aeronautics Board, *Air Carrier Traffic Statistics*, December 1977, December 1978.
- (15) *Ibid.*, *Handbook of Airline Statistics*, 1973 edition.
- (16) *Ibid.*, 1977 Supplement, December 1977.
- (17) *Ibid.*, *Air Carrier Financial Statistics*, December 1977, December 1978.
- (18) *Ibid.*, Bureau of Accounts and Statistics, Personal Communication.
- (19) Interstate Commerce Commission, *91st Annual Report of the ICC, 1977*, *92nd Annual Report of the ICC, 1978*.
- (20) *Ibid.*, *84th Annual Report of the ICC, 1970*.
- (21) Interstate Commerce Commission, Personal Communication.
- (22) *Ibid.*, *83rd Annual Report of the ICC, 1969*.

Profile References (cont.)

- (43) U.S. Department of Transportation, Federal Aviation Administration, *FAA Statistical Handbook of Aviation*, Calendar Year 1976, 1977.
- (44) *Ibid.*, Office of Management Systems, *1977 General Aviation Activity and Avionics Survey*, April 1979.
- (45) *Ibid.*, Federal Highway Administration, Bureau of Motor Carrier Safety, *Accidents of Motor Carriers of Property*, 1976, 1977.
- (46) *Ibid.*, Federal Highway Administration, *Highway Statistics*, 1967, 1968, 1976, 1977.
- (47) *Ibid.*, *Highway Statistics Summary to 1975*.
- (48) *Ibid.*, NHTSA/FHWA, *Highway Safety*, 1978.
- (49) *Ibid.*, NHTSA/NRD-30, National Center for Statistics and Analysis, Mathematical Analysis Division, Fatal Accident Reporting System, FARS, (30 day deaths), Personal Communication.
- (50) *Ibid.*, Office of the Secretary (P-24), *Transportation Safety Information Report*, Oct., Nov., Dec. 1977 and Annual Summary, March 1978; Oct., Nov., Dec. 1978 and Annual Summary, March 1979.
- (51) Federal Railroad Administration, Office of Standards and Procedures, Personal Communication.
- (52) National Transportation Safety Board, Information Systems Division (TE-50), Personal Communication.
- (53) *Ibid.*, News Release SB 79-4, January 16, 1979.
- (54) U.S. Coast Guard, Information and Analysis Staff (G-MA/83), Personal Communication.
- (55) U.S. Army Corps of Engineers, *Summary of U.S. Passenger Flag Vessels*, October 1977, September 1978.

Automobile Operating Costs — Basis for Estimates in Tables

34-40

<p>1. Fuel</p> <p>2. Oil</p> <p>3. Lubricants</p> <p>4. Repairs</p> <p>5. Tires</p> <p>6. Depreciation</p> <p>7. Insurance</p> <p>8. License</p> <p>9. Registration</p> <p>10. Garage rent</p> <p>11. Washes and waxes</p> <p>12. Miscellaneous</p>	<p>1. Fuel</p> <p>2. Oil</p> <p>3. Lubricants</p> <p>4. Repairs</p> <p>5. Tires</p> <p>6. Depreciation</p> <p>7. Insurance</p> <p>8. License</p> <p>9. Registration</p> <p>10. Garage rent</p> <p>11. Washes and waxes</p> <p>12. Miscellaneous</p>
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1974 Automobile Operating Costs — Basis for Estimates in Tables 35, 36 and 37

Item	Standard Size Automobile	Compact Size Automobile	Subcompact Size Automobile
Automobile Description	1974 model 4-door sedan. Equipped with: V-8 engine, automatic transmission, power steering and brakes, air conditioning, tinted glass, radio, clock, white-wall tires, wheel covers, and body protective molding. Purchase price — \$4,251.	1974 model 2-door sedan. Equipped with: 6 cylinder engine, automatic transmission, power steering, radio, vinyl top, wheel covers, and body protective molding. Purchase price — \$2,910.	1974 model 2-door sedan. Equipped with: Standard equipment plus radio, wheel covers, and body protective molding. Purchase price — \$2,410.
Repairs and Maintenance	Includes routine maintenance such as lubrications, repacking wheel bearings, flushing cooling system, and aiming headlamps; replacement of minor parts such as spark plugs, fan belts, radiator hoses, distributor cap, fuel filter, and pollution control equipment; minor repairs such as brake jobs, water pump, carburetor overhaul, and universal joints; and major repairs such as a complete "valve job." Costs were calculated using 1974 parts prices and a \$12 per hour labor rate.		
Replacement Tires	Purchase of 7 new regular tires and 4 new snow tires during the lives of the cars was assumed.		
Accessories	Purchase of floor mats the first year, seat covers the sixth year, and miscellaneous items totaling \$2.20 per year was assumed.		
Gasoline	Consumption rate of 12.92 miles per gallon and a gasoline price of 52.1 cents per gallon including taxes were used.	Consumption rate of 15.97 miles per gallon and a gasoline price of 52.1 cents per gallon including taxes were used.	Consumption rate of 21.43 miles per gallon and a gasoline price of 52.1 cents per gallon including taxes were used.
Oil	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 159 gallons of gasoline. A price of \$1.00 per quart was used.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 150 gallons of gasoline. A price of \$1.00 per quart was used.	Consumption was associated with gasoline consumption at a rate of 1 gallon of oil for every 135 gallons of gasoline. A price of \$1.00 per quart was used.
Insurance	Coverage includes \$50,000 combined public liability (\$15,000/\$30,000 bodily injury, and \$5,000 property damage), \$2,500 personal injury protection, uninsured motorist coverage, and full comprehensive coverage for the 10-year period. Deductible collision insurance was assumed for the first 5 years (\$100 deductible).		
Garaging, Parking, and Tolls	Includes monthly charges of \$11.00 for garage rental or indirect cost of the owner's garaging facility; plus parking fee average of \$57.00 per year, and toll average of \$7.00 per year, both of which were assigned in proportion to annual travel.		
Taxes	Includes Federal excise taxes on tires (10 cents per pound), lubricating oil (6 cents per gallon), and gasoline (4 cents per gallon); plus the Maryland tax on gasoline (9 cents per gallon), titling tax (4 percent of retail price), and registration fee (\$20.00 for 3,700 pounds or less shipping weight, or \$30.00 for vehicles over 3,700 pounds).		

Source: Federal Highway Administration, *Cost of Operating an Automobile*, April 1974.

APPENDIX B

Glossary

ALL OPERATIONS:

Refers to all flight operations including test, training, ferry, scheduled and nonscheduled passenger and cargo service, both revenue and nonrevenue.

AVIATION GASOLINE (AVGAS):

All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D 910. Includes all refinery products within the gasoline range that are to be marketed straight or in blends as aviation gasoline without further processing (i.e., any refinery operation except mechanical blending). Also includes finished components in the gasoline range which will be used for blending or compounding into aviation gasoline.

CERTIFICATED CARRIER:

One of a class of air carriers holding certificates of public convenience and necessity issued by the CAB, authorizing the performance of scheduled air transportation over specified routes and a limited amount of nonscheduled operations. This general carrier grouping includes the all purpose carriers (i.e., the so-called passenger/cargo carriers) and the all-cargo carriers, and comprise all of the airlines certificated by the Board, except the supplemental air carriers. Certificated route air carriers are often referred to as "scheduled airlines," although they also perform nonscheduled service.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, "CC AND N":

A certificate issued to an air carrier under Section 401 of the Federal Aviation Act, by the Civil Aeronautics Board, authorizing the carrier to engage in air transportation.

COMMERCIAL OPERATOR:

A commercial operator is an air carrier certificated to engage in scheduled intrastate common carrier operations and private carriage in interstate operations. The intended interstate operations will not be in common carriage. A "CC and N" is not required of a commercial operator.

COMMUTER AIR CARRIERS:

Commuter air carriers are certificated air taxi operators who perform scheduled services, as defined by the CAB as "those operators who perform, pursuant to published schedules, at least five round trips per week between two or more points, or carry mail."

DOMESTIC OPERATIONS:

Operations within and between the 50 States and the District of Columbia. Includes domestic operations of the certificated trunk carriers, Pan American, local service, helicopter, intra-Alaska, intra-Hawaii, domestic all-cargo, and other carriers; also includes transborder operations conducted on the domestic route segments of U.S. air carriers.

FIXED-WING AIRCRAFT:

Aircraft having nonrotating wings fixed to the airplane fuselage and outspread in flight.

GENERAL AVIATION:

General Aviation refers to the operation of U.S. Civil Aircraft owned and operated by persons, corporations, etc., other than those engaged in U.S. air carrier operations. (U.S. air carrier operations include the certificated route air carriers, supplemental air carriers, and commercial operators of large aircraft.)

OTHER TRANSPORT REVENUES:

Miscellaneous revenues associated with air transportation performed by the air carrier, such as airline employees, officers and directors, or other persons, except ministers of religion who travel under reduced rate transportation; reservation cancellation fees; and other items not specified in other transport revenue accounts.

OVER-ALL OPERATING EXPENSES:

See "Operating Expenses."

OVER-ALL OPERATING REVENUES:

See "Operating Revenues."

OVER-ALL REVENUE LOAD FACTOR:

The percent that total revenue ton-miles (passenger plus nonpassenger) are of available ton-miles in revenue services, representing the proportion of the over-all capacity that is actually sold and utilized.

OVER-ALL REVENUE LOAD PER AIRCRAFT:

The average over-all tonnage carried per aircraft in revenue services derived by dividing the over-all revenue ton-miles by the over-all aircraft miles flown in revenue services.

OVER-ALL TRANSPORT REVENUES:

See "Transport Revenues."

PASSENGER-MILE:

One passenger transported 1 mile. Passenger-miles are computed by summation of the products of the aircraft miles flown on each interairport flight stage multiplied by the number of passengers carried on that flight stage.

PASSENGER ENPLANEMENTS:

The total number of revenue passengers boarding aircraft, including originating and stopover or on-line transfer passengers.

PASSENGER REVENUES:

Revenues from the transportation of passengers by air.

PASSENGER SERVICE EXPENSES:

Costs of activities contributing to the comfort, safety, and convenience of passengers while in flight and when flights are interrupted. Includes salaries and expenses of cabin attendants and passenger food expense.

PASSENGER REVENUE TON-MILE:

One ton of revenue passenger weight (including all baggage) transported 1 mile. The passenger weight standard for both "Domestic" and "International" operation is 200 pounds.

REVENUE PASSENGER ENPLANEMENTS:

The total number of passengers boarding aircraft derived from a standard number of passenger enplanements per on-line originating passenger.

TURBOJET AIRCRAFT:

Aircraft propelled by jet engines incorporating a turbine-driven air compressor to take in and compress the air for the combustion of fuel, the gases of combustion (or the heated air) being used both to rotate the turbine and to create a thrust-producing jet.

TURBOPROP AIRCRAFT:

Aircraft in which the main propulsive force is supplied by a conventional propeller driven by a gas turbine. Additional propulsive force may be supplied from the discharged turbine exhaust gas.

HIGHWAY TERMINOLOGY

FEDERAL EXPENDITURES:

Intergovernmental payments to the State, District of Columbia, and local governments plus direct expenditures for capital outlay, maintenance, administration, and research.

MUNICIPAL MILEAGE:

Roads inside city, municipal district, or urban boundaries: includes extensions of the state primary system, and state secondary roads within delimited incorporated and unincorporated places, and mileage under local control; e.g., local city streets, roads, and public ways not under State control within such places.

RURAL MILEAGE:

Roads outside city, municipal district, or urban boundaries.

STATE AND LOCAL EXPENDITURES:

Disbursements for capital outlay, maintenance and traffic surfaces, administration, and research, highway law enforcement and safety, and interest on debt.

STATE PRIMARY SYSTEM:

This refers to highways that have been so officially designated by States. They encompass the principal intercounty, intercity and interstate roads of all states.

STATE SECONDARY ROADS:

This mileage is reported in the tables for the States (taken from the Highway Statistics 1970 Bulletin) that have designated both a primary and secondary system.

AUTOMOBILE TERMINOLOGY

ACCIDENT:

An accident is an unintended event that produces injury or damage. The word "injury" includes "fatal injury."

BUS TERMINOLOGY

COMMERCIAL BUS:

Any bus used to carry passengers at rates specified in tariffs; charges may be computed per passenger (as in regular route service) or per vehicle (as in charter service).

EXPENDITURES — SCHOOL BUS:

This is the total expenditure for operation, maintenance, insurance, depreciation, operating taxes, licenses, and operating rents for vehicles used as school buses.

INTERCITY BUS — CLASS I:

An interstate motor carrier of passengers with an average annual gross revenue of at least \$1,000,000 is defined by the ICC as a Class I carrier.

INTERCITY BUS — TOTAL:

This figure includes Class I, II, and III interstate carriers, all of which report to the Interstate Commerce Commission, and intrastate carriers.

MOTORBUS:

Rubber-tired, self-propelled transit vehicle with fuel supply carried on board the vehicle.

REVENUE PASSENGERS:

Passengers on a commercial bus by or for whom a fare is paid.

REVENUE PASSENGER-MILES:

One revenue passenger carried 1 mile generates 1 passenger-mile. The revenue passenger miles reported thus represent the total distance traveled by all bus passengers.

SCHOOL AND NONREVENUE BUS:

Passengers using these are not directly charged for transportation, either on a "per passenger" or on a "per vehicle" basis.

TAXES ASSIGNABLE TO OPERATIONS:

Includes the amount of federal, state, county, municipal, and other taxing district taxes which relate to motor carrier operations and property use therein (except income taxes on ordinary income).

VEHICLE-MILE:

One vehicle traveling 1 mile generates 1 vehicle-mile. Thus, total vehicle-miles is the total mileage traveled by all vehicles.

TRUCK TERMINOLOGY

AVERAGE LENGTH OF HAUL (MILES):

The total number of ton-miles divided by the total number of tons carried.

LIGHT RAIL:

Streetcar, trolley car, or light surface rail operations, including private right-of-way operations, typified by low platform stations, one-man operations at all times, capability for on-board fare collection, and actual on-board fare collection most of the time.

MOTORBUS:

Rubber tired, self-propelled transit vehicle with fuel supply carried on board the vehicle.

OPERATING EXPENSES:

These expenditures include outlays for maintenance, wages, fuel, licensing, insurance, rent, safety, operating taxes, and station operations.

OPERATING REVENUE:

Includes passenger revenue and revenue from charter and contract services.

PASSENGER REVENUE:

The total of all moneys paid by passengers to ride on scheduled trips. This includes single trip fares, and charges for transfers, weekly, monthly, and other unlimited-usage tickets.

REVENUE PASSENGERS CARRIED:

The total number of transit rides from origin to destination taken by passengers. Thus, a multi-vehicle ride would be counted only once. A ride by a nonrevenue passenger would not be counted.

REVENUE VEHICLE-MILES:

One vehicle (bus, trolley car, subway car, etc.) traveling 1 mile while revenue passengers are on board generates 1 revenue vehicle-mile. The revenue vehicle-miles reported thus represent the total mileage traveled by vehicles in scheduled or unscheduled revenue-producing services.

TROLLEY COACH:

A vehicle with the steering capability of a motor bus, running on rubber tires, but drawing power from electric overhead wires.

WATER TRANSPORT TERMINOLOGY

BUNKER C/NUMBER 6 FUEL OIL:

A high viscosity oil used mostly by ships, industry, and large-scale heating installations. This heavy fuel requires preheating in the storage tank to permit pumping and additional preheating to permit atomizing at the burners.

CLASS A CARRIERS BY INLAND AND COASTAL WATERWAYS:

A class A carrier by water is one with an average annual operation revenue that exceeds \$500,000.

INTERNATIONAL (FOREIGN) FREIGHT:

Movements between the United States and foreign countries and between Puerto Rico, the Virgin Islands and foreign countries. Trade between U.S. territories and possessions (i.e., Guam, Wake, American Samoa, etc.) and foreign countries is excluded. Traffic to or from the Panama Canal Zone is included.

INTERNATIONAL PASSENGER:

Any person traveling on a waterborne public conveyance between the United States and foreign countries and between Puerto Rico and the Virgin Islands and foreign countries.

INTRATERRITORIAL TRAFFIC:

Traffic between ports in Puerto Rico and the Virgin Islands, which are considered as a single unit.

LAKELIKE OR GREAT LAKES:

These terms apply to traffic between U.S. ports on the Great Lakes system. The Great Lakes system is treated as a separate system rather than as a part of the inland system.

LOCAL:

Movements of freight within the confines of a port, whether the port has only one or several arms or channels, except car-ferry and general ferry, are termed "local." The term is also applied to marine products, sand, and gravel taken directly from the Great Lakes.

MARITIME CARRIERS:

Maritime carriers operate on the open sea; i.e., their operations must include a foreign or international component and may include a domestic component.

MARITIME REVENUE:

Revenue received for operations in international or foreign shipping.

NON-SELF PROPELLED:

Vessels not containing within themselves the means for their own propulsion.

PASSENGER-MILE, INTERCITY:

Moving one passenger 1 mile on a trip between two cities generates 1 intercity passenger mile.

SELF-PROPELLED TOWBOAT:

A compact, shallow-draft boat with a squared bow and towing "knees" for pushing tows of barges on inland waterways.

SCOWS:

Large, flat-bottomed non-self-propelled vessels used to transport sand, gravel, or refuse.

TANK BARGES:

Large, flat-bottomed non-self-propelled vessels used to transport fluids such as oils.

FREIGHT REVENUE:

Revenue from the transportation of freight and from the exercise of transit, stop-off, diversion, and reconsignment privileges, as provided for in tariffs.

LINE MILEAGE:

The aggregate length of roadway of all line-haul railroads. It does not include the mileage of yard tracks or sidings, nor does it reflect the fact that a mile of railroad may include two or more parallel tracks. Jointly-used track is counted only once.

LOCOMOTIVE MILEAGE:

Movement of a locomotive unit 1 mile is a locomotive-mile.

LOCOMOTIVES:

Self-propelled units of equipment designed solely for moving other equipment.

MAIL REVENUE:

Revenue from the transportation of mail at established rates, and for services and facilities provided in connection with the handling of U.S. mail.

OPERATING EXPENSES:

Expenses of furnishing transportation service, including maintenance and depreciation.

OTHER REVENUE:

This is a general heading that includes revenues from miscellaneous operations (i.e., dining and bar car services), income from lease of road and equipment, miscellaneous rent income, income from non-operating property, profit from separately operated properties, dividend income, interest income, income from sinking and other reserve funds, release or premium on funded debt, contributions from other companies, and other miscellaneous income.

PASSENGER REVENUE — COMMUTATION:

Revenue from the sale of commutation tickets.

PASSENGER REVENUE — OTHER THAN COMMUTATION:

Revenue from the transportation of paying passengers not holding commutation tickets; this classification includes basic one-way and round-trip fares, discounted fares offered for the clergy and military, special excursion fares offered to travelers meeting the requirements for eligibility for those fares, (i.e., origin/destination, time of travel, length of stay at destination), revenue from the extra charges made for occupancy of space in parlor and sleeping cars, and revenue from the transportation of corpses.

PASSENGER TRAIN CARS:

Cars typically found in passenger trains include coaches, sleeping cars (formerly called Pullman cars), parlor cars, dining cars; lounge cars, baggage cars, crew-dormitory cars, and observation cars.

RAIL MOTOR CARS:

Self-propelled passenger rail cars which are driven by electric motors energized from an electrified roadway or by a generator driven by a diesel or gas turbine engine.

DISTILLATE FUEL OIL:

The lighter fuel oils distilled off during the refining process. Included are products known as ASTM grades Nos. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. The major uses of distillate fuel oils include heating, fuel for on- and off-highway diesel engines, and railroad diesel fuel.

DISTILLATE OIL:

Fuel which may be used in diesel engines (i.e., water vessels, railroads, trucks, etc.).

ICC-REGULATED PIPELINE:

A pipeline company operating in interstate commerce under a grant of authorization from the Interstate Commerce Commission and subject to economic regulation by the Commission. Such a pipeline company is required to report relevant statistics to the ICC.

MIDDLE DISTILLATES:

A category of petroleum fuel that includes the diesel fuels burned by surface transportation carriers, as well as home heating oil.

NON-REGULATED PIPELINE:

A pipeline company not operating as a common carrier in interstate commerce, hence required neither to secure a grant of operating authority from the Commission nor to report to it.

NO. 2 DISTILLATE FUEL OIL:

A petroleum distillate which meets the specifications for No. 2 heating oil and/or the specifications for diesel fuel grade No. 2.

OIL SHALE:

A finely grained sedimentary rock composed mostly of clay that contains an organic material called kerogen. When the kerogen is heated to about 482 degrees C (900 degrees F), it is converted to shale oil and gas. The shale oil that is derived from kerogen is low in sulfur; and although it varies in some respects from conventional petroleum, it can be refined into most petroleum products.

OPEC:

Organization of Petroleum Exporting Countries including Saudi Arabia, Iran, Venezuela, Libya, Indonesia, United Arab Emirates, Algeria, Nigeria, Ecuador, Gabon, Iraq, Kuwait, and Qatar.

OPERATING EXPENSES:

Expenditures necessarily made while providing services by which operating revenue is earned.

OPERATING REVENUE:

Revenue from the transportation of oil and from services incidental to such transportation.

OTHER DISTILLATE FUEL OILS:

All other refined petroleum products not included in any other category and which, when produced in conventional distillation operations, have a boiling range from 10% point at 167 degrees C to 90% point at 375 degrees C. Included are products known as No. 1 and No. 4 distillate fuel oils and diesel oils.

GAS PIPELINE TERMINOLOGY

GAS TRANSMISSION COMPANY:

A company which obtains most of its gas operating revenues from the operation of a gas transmission pipeline and/or from main line sales to industrial customers.

DISTRIBUTION MAINS:

Generally, mains which carry or control the supply of gas from the point of supply to the sales meters.

FIELD AND GATHERING PIPELINES:

A network of pipelines transporting natural gas from individual wells to a compressor station, processing point, or main trunk pipeline.

LIQUID PETROLEUM GAS (LPG):

Consists of propane and butane and is usually derived from natural gas. In locations where there is no natural gas and the gasoline consumption is low, naphtha is converted to LPG by catalytic reforming.

NATURAL GAS LIQUIDS:

Those liquid hydrocarbon mixtures which are gaseous at reservoir temperatures and pressures but are recoverable by condensation or absorption. Natural gasoline and liquefied petroleum gas such as propane and butane are principal examples.

NATURAL GAS:

A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

TRANSMISSION PIPELINE:

Pipelines installed for the purpose of transmitting gas from a source of supply to one or more distribution centers, to one or more large volume customers, or a pipeline installed to interconnect sources of supply.

ENERGY TERMINOLOGY

BTU — BRITISH THERMAL UNIT:

The amount of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit.

COAL:

A solid, brittle, more or less distinctly stratified combustible carbonaceous rock formed by partial to complete decomposition of vegetation. It varies in color from dark brown to black, is not

SOLVENT REFINED COAL:

A coal liquefaction process in which the coal is mixed with a liquid solvent, then heated and passed to a high pressure reactor where hydrogen and hydrogen sulfide are separated from the mixture. It is then filtered, the solvent is distilled for reuse, and the final product is recovered either as a liquid or solid.

TRANSPORTATION TERMINOLOGY

CONSTANT DOLLARS:

A series is said to be expressed in "constant dollars" when the effect of change in the purchasing power of the dollar has been removed. Usually the data are expressed in terms of dollars of some selected year or the average of some set of years.

CURRENT DOLLARS:

Dollars current at the time designated or at the time the transaction listed took place. In most contexts, the same meaning would be conveyed by the simple term "dollars."

DIESEL ENGINE:

An internal combustion engine in which the fuel is sprayed directly into the combustion chamber and ignited by the high temperature to which the air in the combustion chamber has been heated during the compression process. There are approximately 400 different variations in size, number of cylinders, and power output of diesel engines. The engines are relatively costly, but they operate with high efficiency combined with a long life span.

ENERGY EFFICIENCY:

In reference to transportation, the inverse of energy intensiveness: the ratio of outputs from a process to the energy inputs; for example, passenger-miles traveled (PMT) per gallon of fuel.

GASOLINE:

A refined petroleum product which, by its composition, is suitable for use as a fuel in internal combustion engines.

GROSS NATIONAL PRODUCT (GNP):

Total value at market prices of all goods and services produced by the nation's economy. As calculated quarterly by the Department of Commerce, Gross National Product is the broadest available measure of the level of economic activity.

LOAD FACTOR:

The ratio of actual load to full capacity.

MILE (STATUTE):

5280 feet.

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